

Information Systems

A Practical Guide to Implementing Microfinance Information Systems

A Technical Guide

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The Technical Guide draws upon information first published in “Management Information Systems for Microfinance Institutions: A Handbook,” published by CGAP in 1998. The authors of the Guide also drew upon CGAP’s experience with the Information Systems (IS) Fund, a CGAP initiative co-funded by the EU/ACP Microfinance Programme. From 2005-2011, the IS Fund supported over 120 microfinance institutions (MFIs) to improve their information systems. The contents of this Guide are based in large part on lessons learned from the IS Fund engagements. The authors would thus like to thank all MFIs and consultants who participated in the IS Fund for their contributions to the Guide.

1.1 Using This Guide

Financial institutions depend on their ability to process large quantities of information in a timely and accurate manner. For smaller institutions, such as microfinance institutions (MFIs), establishing and managing systems to process information is especially difficult to do. Scarce skilled human capital, limited funds, and a lack of formal, documented, and enforced processes—the building blocks of back office systems—add to the challenge. Getting it right is critical, but it is not easy to do.

Large technology implementations at MFIs are often characterized by repeated changes in scope, budget overruns, and delays, and result in significant functional gaps between what is needed and what the solution can accomplish. These complications are not necessarily due to the technology itself, but rather they often stem from the complex connections technology has with operations and day-to-day management of the institution. Information systems “embed” an institution’s business processes and support its products and services. Changing or replacing the platform, therefore, is much more than a technology project. Technology must be made to fit an institution’s processes and vice versa.

Such projects are often managed exclusively by the information technology (IT) department, with weak connections to the business and little formal communication with the institution’s other units. Approaching the project as an operations or business transformation project, with a core project management team and close involvement across the institution, increases the likelihood of success. Clear processes to solicit input from the business units and allocate decision-making powers distribute accountability across the institution and help ensure a smooth implementation and an outcome in line with expectations.

While many sophisticated methodologies and tools exist to guide IT projects, the tools themselves may be ill suited to smaller financial institutions because they often require costly resources and are complex.

This Technical Guide is intended to address these functional gaps. A well-organized process, inclusive of all relevant stakeholders in an institution, could greatly improve the effectiveness with which smaller financial service providers deploy technology solutions

and better position them for growth. This Guide provides a staged process, a decision-making model, and strategic guidance to drive an effective IT project.

1.2 Who Should Use This Guide

The Guide is designed for MFIs or smaller financial institutions. The contents are best suited to institutions seeking to purchase a new, off-the-shelf software solution, though those looking to improve existing systems or maintain manual systems may still find certain aspects useful, such as defining business needs and process streamlining, which are described in “Needs Analysis.” Larger financial institutions may also benefit from the information presented in the Guide, though the complexities of procuring technology solutions for larger institutions are not fully addressed in this document.

1.3 Background

1.3.1 *What is an information system?*

Information systems (IS) capture and store data, process data to produce meaningful and relevant reports, and support operations by enforcing defined processes and providing an audit trail. Figure 1 provides an overview of the key functionality of a microfinance IS.

1.3.2 *Terminology*

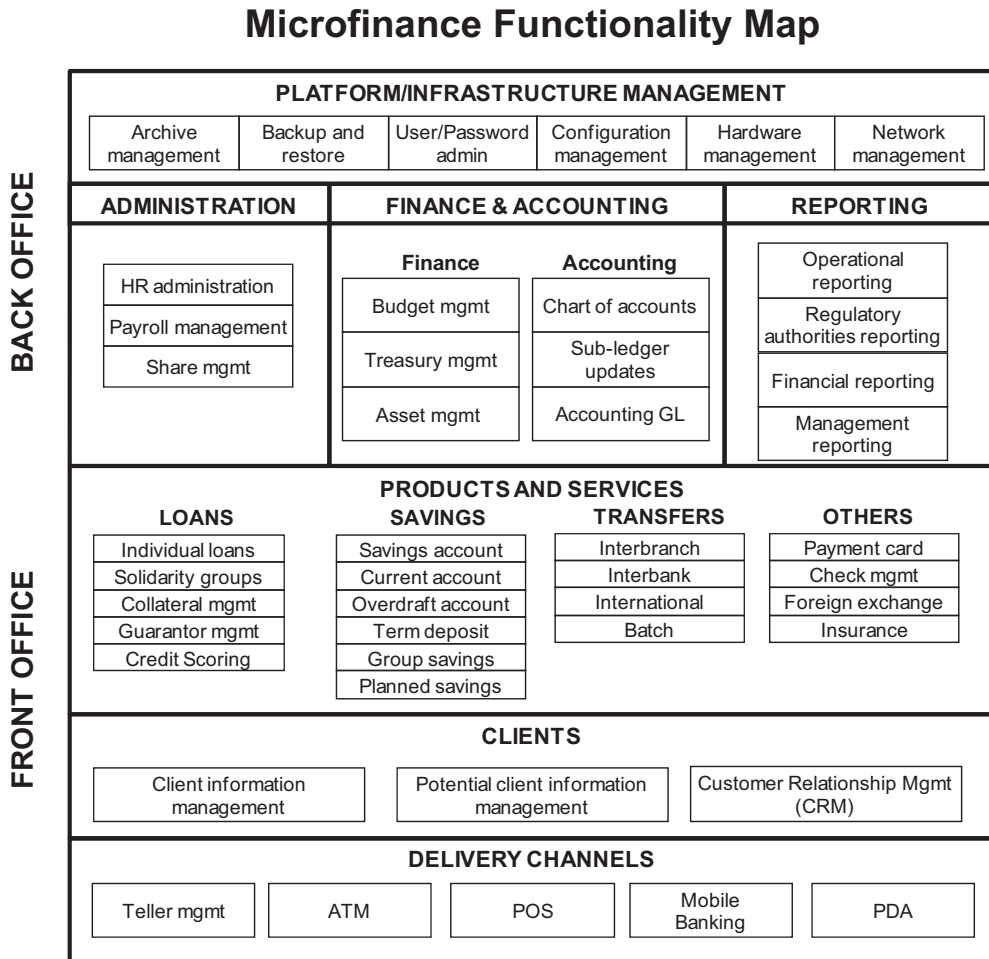
An IS is often referred to in microfinance as a management information system (MIS), while the banking industry typically uses the term “core banking system” (CBS). This may be confusing as three terms generally refer to the same core system in the microfinance context. However, note the difference, especially when communicating with software vendors that typically work with banks.

In banking environments, CBS refers to the portfolio management functions (typically loans and deposits), while MIS refers to the reporting system. In microfinance, the term MIS is often used to describe the entire back office system, including portfolio management, reporting, and others as shown in Figure 1. The term “information system” is not specific to financial services and refers to the entire back office system used to run an institution. For the purpose of this Technical Guide, the term “information system” (IS) will be used.

1.4 Getting started

The Guide is organized based on a four-step process aimed at procuring a new technology solution: project preparation, needs analysis, selection, and implementation. At the

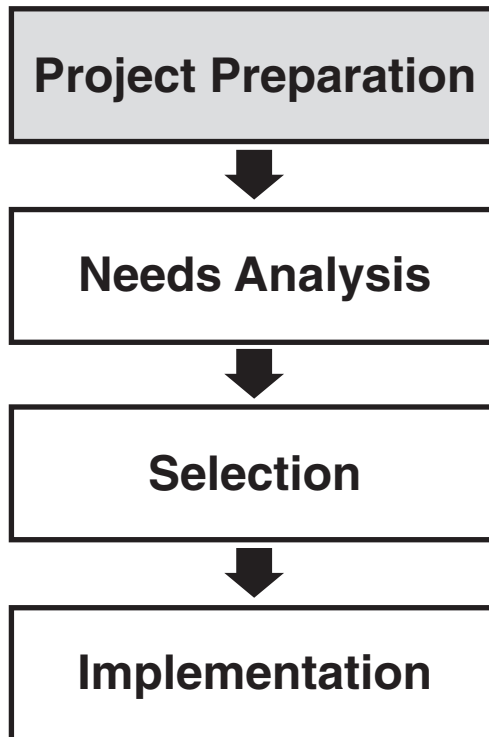
Figure 1. Functionality Map



beginning of each section, a figure indicates which tool(s) accompany that section, the activities the institution should undertake, and the key considerations. Instructions for the user are provided in each tool and denoted with <...>.

Note that the tools are intended only as a guide and will need to be adapted as appropriate to meet the needs of your institution.

The text of the Guide is directed at the Project Management Office (PMO) under the assumption that the PMO will manage the project and delegate activities to the appropriate business unit as needed.



PROJECT PREPARATION		
Objectives	Tools	
2.1 Articulate the business objectives Define business problem Define goals and objectives Assess risks Agree outcomes with top management	Annex I. Annex Ia.	Project Plan Template Project Timeline Template
2.2 Secure resources to execute project Form Steering Committee Form PMO Develop preliminary budget		
2.3 Establish a plan Gather documentation Develop Change Management Plan Draft Project Plan		

A large-scale technology project is likely to impact the entire business. Decisions taken throughout the project have important operational implications, so staff and key decision makers from across the institution, not just the IT team, have an important role to play in defining the project objectives, gathering requirements, and vetting potential solutions.

During the project preparation phase, the project team develops a clear understanding of the problem(s) to be addressed, expected outcomes, potential risks, and the general level of resources needed to conduct the project. Vetting these ideas with staff and management helps build consensus and manage expectations around what the project does (and does not) aim to accomplish. Engaging with a range of staff from the project outset helps build positive momentum for the project.

2.1 Articulate the Business Objectives

2.1.1 *Define business problem*

Why is the institution embarking on this project? What are the expected gains? What problems does the project aim to address? And, why now? The following questions help explore and clarify the business objectives of the project:

Business rationale

- What influences the institution's changing information needs (e.g., market environment, regulation, donor or investor requirements, desire for new products, branches, expansion, better data analysis capacity, etc.)?
- Does the institution anticipate changes in regulation or its regulatory status?

- Does the institution anticipate changes to reporting requirements for funders or other external parties, such as a credit bureau?

Functional requirements

- What rate of growth is expected in terms of clients, staff, branches, and portfolio?
- What core functionality does the institution need?
- What new functionality would the institution like to be able to accommodate (e.g., credit bureau, social performance management and reporting, new delivery channels, new products, etc.)?
- What changes to existing products are expected?
- What new products does the institution plan to introduce?

Expected improvements to operating model

- What processes does the institution want to change through this initiative? What might these new processes look like?
- Is the institution willing to adapt processes to fit in with a new information system's way of working? Are some processes fixed so changing them is not an option?
- What changes to centralization or decentralization are expected?
- What reorganizations are expected?

Technical requirements

- What is the institution's overall IT strategy?
- What are the limitations, restrictions, and guidelines set forth by the IT department?
- What level of information security is required?

Understanding what the project aims to accomplish helps an institution define the scope of the project. Is this a complete overhaul of the information system, or a focused project designed to address specific shortcomings of the existing system? Great attention and patience on these questions upfront is important before embarking on the project.

2.1.2 Define goals and objectives

Based on the problems to be solved and scope of work, develop a set of project objectives to serve as a “reality check” from the first planning session through the entire implementation process—ask, “Is what we are doing taking us closer to achieving these objectives?” Objectives should be accompanied by a set of high-level performance indicators that help assess the project's success. See Table 1 for some examples of project objectives and indicators.

Table 1. Examples of Project Objectives and Indicators

Objective	Indicator
Ability to meet all routine reporting needs (management, operational, business)	All routine and predefined reports needed by the different departments can be run by the department themselves on demand. All ad hoc reports can be defined by the IT department and produced within 2 hours of a user's request.
Reliable system with minimal business interruptions	No more than 4 hours of time out-of-service per month during regular business hours
Improved operating efficiency	A teller or loan officer is able to process a transaction in less than X minutes Financial reports sent to directors within 2 days after the end of the month

2.1.3 *Assess risks*

Every project entails some element of risk. IT projects, in particular, are susceptible to budget overruns, schedule delays, and “scope-creep” whereby the initial project scope continuously expands if parameters are not well-defined and agreed upon in advance. It is difficult to assess all risks at this early stage in the project, but it is important to identify upfront key aspects of the project that might make it prone to a particular kind of risk (and be on the lookout to address them). For instance, a project that involves substantial software development is prone to schedule delays since software development times are subject to a number of variables that are difficult to assess and control.

The project plan template provides a table to describe risks and mitigating actions. The following are some common risk categories:

- **Schedule.** Delays on critical tasks can extend the time needed to execute the project.
- **Scope.** Incremental additions to the scope of work or project goals may add unnecessary complexity to the project, or increase the resources needed to execute it. Scope creep may ultimately compromise the original project objectives.
- **Resources.** A shortage of resources, human or financial, may jeopardize the success of the project.

Risks should be categorized by their likelihood (e.g., high, medium, or low) and potential impact on the project (e.g., catastrophic, critical, or minor).

2.1.4 *Agree outcomes with senior management*

Before moving any further with the project, senior management should understand and agree to the project scope and objectives, and be aware of potential risks. Management's

insight into broader organizational goals can ensure adequate alignment. In addition, identify where this project might overlap or have significant interaction with other important efforts that may be happening simultaneously. Building consensus and forcing this level of clarity upfront often involves significant discussion, but it enables the project team to have sufficient clarity to make informed decisions at the outset and throughout the project.

2.2 Obtain Resources to Execute the Project

Forming a team to manage the project helps develop institution-wide acceptance and ensures that the diversity of needs throughout the institution are incorporated in the effort. Ideally, the project should be overseen by a steering committee comprised of senior management, while day-to-day management of the project should be carried out by the project team through the Project Management Office (PMO). Some organizations might have an established PMO to manage projects on an ongoing basis, while others will need to assemble a PMO, similar to a task force, to manage the project.

Large IT projects also benefit from having a senior manager act as a project champion—someone who clearly recognizes the benefits of the project to the business, and can help work with other senior managers to maintain support and a unifying vision along the way.

2.2.1 *Form steering committee*

The steering committee's role is to provide guidance to the PMO and make critical decisions throughout the course of the project. The steering committee should be comprised of senior management from areas of the institution that may be significantly impacted by the project, and in some instances, the chief executive officer. It should elect a chairperson to interface with the PMO regularly and convene steering committee meetings as necessary. The main objectives of the steering committee are to (1) ensure the project is meeting intermediary targets; (2) provide a forum to evaluate critical issues; and (3) make decisions and provide direction to the PMO.

2.2.2 *Form project management office*

The PMO is in charge of implementing the project plan and manages day-to-day tasks involved in carrying out the project. The PMO engages with staff at various points during the project to ensure a broad representation of user needs and is responsible for change

management through regular communications with staff. The PMO manages the project, but part of their role is to solicit input and guidance from other business units as needed throughout the process. The remainder of this document is addressed to the PMO.

2.2.2.1 Who should be on the PMO team?

- The PMO is often staffed primarily by the IT department, but staff from other areas of the institution that will be significantly impacted by the project also should be included in the PMO.
- The PMO should be small (roughly 5–8 people), with one or two people from each department that will be impacted by the project.
- The PMO should be led by a senior or mid-level manager who understands the core business of the institution and is familiar with the range of issues across the different areas of the institution, and is a natural problem solver with an action-oriented mentality. These qualities are more important than a technology background. And this person need not come from the IT department. This person should be able to devote all or most of his or her time to the initiative.

Hiring an external consultant to complement the expertise of in-house staff can add significant value to the process, but this person's role should be clearly defined as one of advising, not decision making. In other words, the IS project should be led by internal, full-time staff of the institution.

Members of the PMO are required to devote time to their role that may take away from their normal duties. Building PMO participation into a staff member's work plan (and performance-based compensation, where appropriate) can help encourage active membership.

2.2.2.2 How should the PMO be managed?

The PMO needs to establish a process for decision making. Clarifying roles and responsibilities should be one of the first priorities of the newly formed team. Scheduling routine meetings (weekly, monthly, etc., depending on the pace of the project) is advised.

2.2.3 Develop preliminary budget

While a final budget can be determined later, an indicative figure is needed early in the process as it may widen or narrow the solution options early on. A preliminary budget

can come from either a top-down decision (management determines the ceiling based on available resources), a bottom-up approach (the project manager is asked to come up with an estimate of what the project would cost), or a combination of the two.

Investing in technology impacts the institution's future, it is not just a regular operating expense. Whatever process is used to determine the preliminary budget, it is important that this be seen and understood as a strategic allocation of resources. Under investing might leave the institution with an inadequate IS. Over investing might acquire an IS ill-suited to the business of the institution and unable to recoup the large investment.

When budgeting for a system or comparing the price of systems, look at the total cost of ownership, including support needed during the selection and implementation process, the initial investment, plus future maintenance and support. Institutions are often surprised by the cost of technical assistance involved in implementing a new system, such as assistance with configuration, data migration, or staff training. Ongoing costs to manage the system should also be examined as these costs can be quite high and are often not included in budget estimates. Accounting for all of these costs at the outset will help set realistic expectations of what the institution can afford.

In addition, there are many "hidden" costs, such as the time staff will spend away from normal activities for training, the inevitable work slow-down that will occur during the transition period, as well as any time spent running the old and new systems in parallel.

The cost of a software solution depends on a wide range of variables:

- What is the scope of the project? For what purposes will the system be used?
- What is the size of the institution? An institution with a large number of clients (or significant growth projections) will need a system that can handle large volumes of data.
- How long does the institution expect the system to last?? A long-term decision will mean a different choice than an interim purchase.
- How broad are the functionality options? Additional functionality or customization can significantly increase the costs above the basic model.

Situations, needs, and resources vary too widely to give precise guidelines on how much to budget. In preparing a budget, consider the following categories:

- **Initial investment**
 - **Hardware** purchases (servers, computers, printers, network cards, backup power supplies, generators, tape backup units, cables) and infrastructure improvements (wiring, improved security, new work spaces, temperature and humidity control)
 - **Software** licensing fees (usually charged per user or per installation)

- **Implementation** costs, such as customization, technical assistance (support during selection process, configuration, installation, and data transfer), staff training, extra staffing during implementation
- **Indirect investments**, such as additional infrastructure, or software licenses needed for system to operate
- **Ongoing costs**
 - **Maintenance** costs, including an annual fee for technical support (typically based on a percentage of the license fee); cost of future software upgrades, improvements, and modifications; cost of future hardware upgrades; cost of periodic technical support for repair or upgrading computers; higher utility bills and insurance premiums

The costs depend on choices made regarding functionality and scope. In general, the more sophisticated the functionality, the higher the cost. The PMO will need to carefully understand the institution's threshold for the tradeoff between functionality and cost and set priorities accordingly.

2.3 Establish a Plan

2.3.1 *Gather existing documentation*

While the planning stage is still underway, begin collecting documentation for the needs analysis in the next stage. These documents will help provide a thorough understanding of existing practices, which is important for several reasons:

1. To ensure that operations are standardized across the institution before implementing a new system. If one branch has a different method for disbursing loans than the other branches, for example, the methods should be adapted to match the rest of the institution, especially if all branches will be accessing a central system.
2. To sufficiently document and communicate the institution's needs to software vendors. Vendors cannot be held responsible for performing a function the institution did not specifically ask for, so it is up to the PMO to make sure everything is included.

The PMO should assemble documentation on existing policies and procedures, as well as the reports used on a regular basis. Look for documentation in five main areas (see project plan template in Annex for a detailed list):

- Accounting policies and procedures
- Basic operating policies and procedures
- Internal control procedures

- System parameter values
- Reports

Documentation in some of these areas may be nonexistent, outdated, limited in coverage, over-complicated, or contradictory. Some institutions may find that the necessary information exists only in the heads of staff. In such case, there is no need at this time to generate or revise written documentation, though the PMO should note missing documents and policies and address these as part of the implementation process. Policies and procedures are subject to change as a result of the IT project, and documentation should be revised only after the basic elements of the new system are well defined.

2.3.2 *Develop change management plan*

Effective change management is fundamentally important for an IT project. IT projects are likely to directly or indirectly impact every person in the institution so it is important to proactively manage these changes through regular communication with staff.

Identify the various stakeholder groups (e.g., board, senior management, team leaders, branch staff, etc.) and develop a corresponding communications, or change management, strategy for each.

At a minimum, the change management plan should do the following:

- Communicate the strategic importance of the project
- Anticipate and address key issues and concerns from the perspective of each stakeholder group
- Determine the frequency, timing, and method of communication

Communicating with staff at each stage of the project will avoid confusion and help build support for the project. Involve staff in the process and communicate regularly to ensure a smooth process and transition to the new system.

2.3.3 *Draft project plan*

The head of the PMO needs to understand the different fronts that need to happen in parallel. Assigning these fronts to different PMO subteams helps him/her delegate execution functions adequately. The PMO should compile a document to guide its activities throughout the project. The project plan should include the following:

- Steering committee and PMO membership

- Project goals and objectives
- Preliminary budget (hardware, software, implementation, and maintenance)
- Risks and mitigating actions
- Change management/communications plan
- Project timeline and major tasks, including deliverables and person responsible

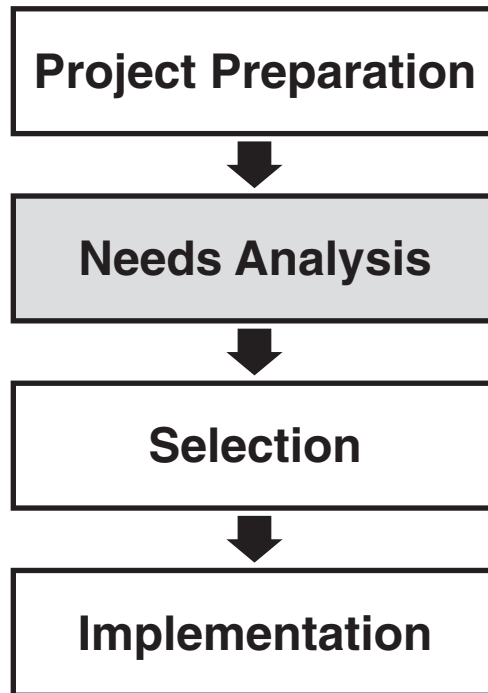
Using Excel or a project planning software, such as MS Project, may be useful in developing and monitoring the plan. See the sample timeline in the Project Plan tool found in the Annex.

2.3.4 Obtain sign off on project plan

The steering committee's first task is sign off on the project plan, including the business objectives, scope of work, key success indicators, high-level budget, and action plan. Approving the project plan provides the PMO with the authority to execute the plan so the steering committee will want to do a careful review of the document for accuracy and consistency with the institution's goals. Any significant deviations from the approved project plan should be brought to the steering committee for review and approval.

2.4 Key Takeaways

- 1. Establish a clear plan to execute the project.** IT initiatives are complex and will require many decisions to be taken along the way. Devote resources to managing project execution (the PMO) and a clear process for decision making at the steering committee level.
- 2. Drive for clarity on project goals and be realistic about the resources available.** Clarity on these points at the beginning of the project will help set reasonable expectations for the project.
- 3. Staff buy-in across all key business units is critical.** Communicate regularly with staff, management, and the board.
- 4. Understand the institution's threshold for the tradeoff between cost and scope.** Taking future needs into account is important, but planning for every possible scenario can quickly drive the price of a system beyond today's budget. Take a critical look at how the institution might evolve over the next few years and balance this with a realistic view of the budget. Identify key tradeoffs and make explicit choices about these.



NEEDS ANALYSIS	
Objectives	Tools
3.1 Define requirements Existing products and processes New products, processes, and channels Operational requirements and technical specifications Additional considerations	Annex 2. Needs Analysis Template: Technical Environment Checklist Business Process Maps Staff Questionnaire Annex 2a. Requirements Document Template
3.2 Prioritize requirements	
3.3 Obtain sign-off	
3.4 Key Takeaways	

In the project preparation phase, the project team determined the business objectives for the project and developed a preliminary budget and scope. This section describes a process to determine the business, operational, and technical requirements for the IS solution.

The needs analysis should follow a methodical process, resulting in a requirements document that will be provided to vendors as part of the request for proposals (RFP). Vendor responses to the requirements document will be included in the contract between the institution and the selected vendor, making requirements gathering one of the most important tasks of the project. The selected vendor will be responsible for delivering on functionality only if it is included in the requirements document, so it is worth devoting significant time and resources to this activity, ensuring that the institution's current and future needs are incorporated.

The requirements document should be specific and comprehensive enough to identify solutions that meet the institution's needs, but it should leave enough flexibility for vendors to propose different approaches. Maintaining some flexibility in the requirements document will allow the institution to adapt some of its processes to the new solution, rather than require the solution to exactly match its processes. Doing so can present opportunities to streamline processes and improve efficiency when moving to the new system. It will also reduce the need for extensive customization, saving time, money, and potentially a lot of headaches as too much customization can lead to recurring glitches in the solution. For institutions that prefer that solutions be customized to meet all of their needs, this can also be feasible though it can increase cost and complexity, and potentially system instability.

Regardless of how an institution decides on the tradeoff between adapting processes to a solution versus a solution adapted to its processes, a clear requirements document is a must. Box 1 the characteristics of a successful requirements document.

Box 1. Drafting a successful requirements document

Emphasize the aspects that are key to the institution's core processes rather than attempt to describe all functional points in detail. Doing so may require that the institution be flexible to adapting some non-core functions to match the solution, but can result in a better solution for the core functionality requirements.

Avoid being too prescriptive. Different solutions often achieve the same objective in different ways. Aim for a requirement that tells the vendor **WHAT** the institution is looking to achieve. It is up to them to explain **HOW** they could achieve it for you.

Be specific and comprehensive, avoid unnecessary detail. The requirements document will eventually be an important part of the contract between the institution and the vendor. A clear articulation of requirements will help produce accurate responses from vendors. Too much detail may confuse vendors so stick to the most important aspects.

Before embarking on requirements gathering, the PMO should determine a process for gathering and obtaining sign-off on the requirements. Will the PMO delegate requirements gathering to business owners of each unit or manage the process itself and present to business owners for sign-off? The PMO should consider the interest, availability, and capacity of the business managers when developing the process. The steering committee should have final sign off on the requirements.

3.1 Define Requirements

Documenting requirements takes time and is best completed in coordination with staff or consultants experienced in the type of technology the institution is procuring. It can be helpful to approach the process using three categories of requirements:

- **Functional.** What tasks should the system perform? What are the expected outcomes? What information will be generated and how it will be used?
- **Operational.** Functions related to the operating environment (i.e., controls, security).
- **Technical.** Requirements related to the technical environment where the system will operate.

Table 2 suggests who might be involved in gathering requirements for each category and some tools that can be useful in facilitating the process.

Type of Requirements	Tools	Responsible
Functionality Requirements – Existing products, processes, channels	Business Process Mapping Interviews with staff	Business owners, department managers PMO
Functionality Requirements – New products, processes, channels	Business plan/strategy documents Interviews with management	Business owners, department managers PMO Steering committee
Operational Requirements	Operations manual Internal audit manual Interviews with staff and management	Business owners, department managers PMO Steering committee
Technical Specifications	IT strategy Technical environment questionnaire	IT team

The Annex to this Technical Guide includes a requirements document template with a list of common requirements, a sample staff questionnaire, and examples of business process maps. If business process maps do not currently exist or are out of date, a process mapping exercise, as described in Box 2, may be useful to identify requirements to match the functionality of the current system. To assess things that are missing or could be improved upon in the current system, staff interviews, as described in Box 3, provide useful insight. Staff using the system every day, such as tellers, accountants, or loan officers, are likely to have opinions about the current system and are useful to include in the interviews. Focus groups can also be a useful way to capture the opinions of many staff in one setting.

3.1.1 Functional requirements—Existing products, processes, channels

Begin by assessing the existing system to understand what works and what does not work. The goal is to identify functionality of the current system that the institution wants to replicate in the new system; aspects of the current system that you do not want to include in the new system; and functionality related to existing products, processes, and channels that do not currently exist and you would like to add.

Focus on the core functions and the key exceptions about which the vendor should be aware. Organize the requirements by business process and sort into front-office operations versus back-office operations.

Box 2. Business process maps

Conducting a business process mapping exercise provides a good opportunity to review the efficiency of current systems. Mapping out existing processes may highlight redundancies or areas for improvement, so the institution may consider undertaking some degree of business process reengineering. However, note that this may be a significant effort, and it should be closely coordinated with the implementation of the technology platform. Alternatively, if the institution identifies a number of significant changes to be made, another approach is to delay implementing improvements until the new solution is selected. That would afford an opportunity to map processes to the new system, providing efficiency gains and optimization of the new solution.

The institution may already have a set of business process maps, but ensure that existing maps reflect the current operating reality. If the business process maps are out of date or do not exist, consider using the Process Mapping toolkit on the Microsave Web site. Sample process maps can be found in the Business Process Maps section of the Needs Analysis template.

The goal of business process mapping is to answer these questions:

- Where are data collected?
- Where are data entered in a computer or manually aggregated?
- How does that information flow to the next process?
- Who needs what information and when?
- What decisions need to be made?
- What information is required to make those decisions?
- When do the decision makers need information and in what format?
- Where is information stored?
- Where are the leverage points and critical processing points where a change in procedure could significantly improve efficiency and service?

The PMO should first map out existing policies and procedures, as officially documented. Once the PMO has mapped the practices according to official procedures, it should validate these processes with staff to understand how things actually work, and determine what, if any, improvements should be made.

Box 3. Staff interviews

Staff, such as loan officers or tellers, who interact with the existing system regularly are likely to have strong opinions of what they would and would not like to see out of a new system, and they should be included in the interviews. It can also be useful to interview several people who have the same role, e.g., three loan officers, as you may find that each has a different way of doing the same task.

The Needs Analysis template provides a sample of questions for staff interviews. The questions should be customized based on the role of interviewees. Use the sample Staff Questionnaire found in the Needs Analysis template to help customize the questions and capture responses.

Remind staff that no technology solution will perfectly match the institution's existing processes or 100 percent of the institution's needs and desires; compromises will need to be made in the way some processes are managed.

3.1.2 Functional requirements—New products, processes, channels

Assessing requirements for new products, processes, and channels requires an understanding of how the institution expects to evolve over time in terms of product offering, number of clients, regulatory status and requirements, organizational structure, and other important aspects of the institution. All of these changes have implications for back office processes and functionality requirements.

Reviewing strategic documents and consulting with the steering committee will provide the PMO with an overview of future plans. Interviews with key staff and team leaders in charge of commercial operations, strategic planning, and marketing will help fill in the details. The PMO should aim to determine a “likely” scenario for growth and new products. The steering committee should validate and sign off on the future needs scenario.

How far into the future you should look depends on the institution, but a minimum of three years is advised. Developing a set of meaningful specifications for products and processes that are not part of the current institution can be extremely challenging. The inclination can be to include all possible scenarios; however, keep in mind that the cost increases with the number of requirements so it is important to make tradeoff choices between preparing for future growth and adding unnecessary complexity (and cost) to the solution.

To maintain flexibility, consider modular platforms that allow an institution to add modules to expand functionality as needs grow. Integrating modules after the initial im-

plementation can be difficult to achieve in practice so if the PMO decides to explore this option, evaluate the pros and cons carefully.

3.1.3 *Operational requirements*

Operational requirements deal with back-office and process needs—essentially all processes not related to products. The following are some examples:

- Closing operations at end of day in branches
- Cash management in branches and headquarters
- Operations reports
- Setting and management of parameters
- Internal audit requirements
- User management, defining and managing roles

The requirements should also address the way the general accounting parameters are expected to be maintained in the system. This should include the definition of the accounting registry, the hierarchical relationship among accounts, and the association of accounts to specific transactions.

Other requirements related to the operation include those related specifically to the process (local/remote) for adding or modifying parameters in the system. For instance, configuring new branches, or adding new reports. The requirements document should specify what the institution expects to be able to accomplish without vendor support.

3.1.4 *Determine technical specifications*

The technical specifications section should address requirements related to the architecture of the solution and operating platform. The following are some examples:

- Integration with other legacy modules
- Network architecture (see Box 4 for a discussion of centralized and decentralized solutions)
- Hosting environment (see Box 5 for more information on Software as a Service versus traditional license models)
- Technical environment (operating system, connection to specific databases)
- Other specifications related to throughput (processing speed, processing time)
- Expected growth in transaction volume, scalability requirements

Box 4. Centralized versus Decentralized Networks

Consider the institution's five-year plans to determine what level of computerization the institution should strive for. Should the headquarters be fully computerized? Should the branch offices be computerized? Should the system support front-office teller activities, in which staff use computers in interactions with clients, or only back-office activities, with loan officers recording transactions manually in the field?

Decisions regarding the preferred network architecture and level of computerization can be complex but are extremely important to the project.

Centralized solutions, in which all branches are networked and operate from a single server and database, offer many benefits. One of the most useful benefits of centralization is improved access to information when and where you need it. For example, a branch manager can monitor at any given moment that branch's portfolio-at-risk ratio and compare it to other branches or the institution as a whole. Has there been a month-on-month increase in this number? Can this be seen across the institution, or is the issue localized to one branch? Access to up-to-date information can help managers detect and prevent fraud, for example, much more quickly than if the information were reviewed monthly or quarterly.

Other benefits of centralization include streamlined management of the system from one location, fewer system vulnerabilities, simpler and more robust contingency policies and measures, simplified management of users and profiles, and faster upgrades.

However, a centralized solution may not be optimal in all circumstances. Centralization requires a reliable Internet connection with significant bandwidth, something that is not available in all environments. Even in cases where an institution has access to a reliable Internet connection, the bandwidth and latency may not be sufficient to support a centralized solution. Centralization may also be more expensive as it typically runs on wide area networks (WANs), which require significant investments in hardware and software in addition to ongoing communications expenses, which should not be overlooked. A centralized solution will also require IT staff at the MFI with expertise in WANs, both to oversee the vendor building out the network as well to provide ongoing oversight and support of the network.^a

As with all decisions, refer back to what the institution is trying to accomplish with the systems upgrade. Does the institution plan to increase the number of

Continues

Box 4 *Continued*

branches over the next five years? Do you plan to offer products that would require real-time connection between branches, such as for money transfers? Will you be linking to an ATM network, mobile payments platform, or credit bureau? Do all of the branches currently have access to electricity and Internet connectivity? Consider what the institution is trying to accomplish, and then weigh the pros and cons of a centralized solution to determine which approach is best for your institution.

Defining the preferred network architecture and documenting the current technical environment will later help the PMO understand and evaluate software and configuration options.

^aFor more information on connectivity options, see Bridge and Mas (2008).

Box 5. SaaS versus Licensed Model

Software as a Service (SaaS) is an emerging software delivery model for the microfinance industry. In the SaaS model, the vendor hosts and maintains the system and offers it to customers via an Internet connection on a subscription based pay-per-use model. Typically, vendors charge institutions on a per customer or per account basis. In contrast, in the traditional licensed model, the customer purchases a license (or multiple licenses based on number of users and branches) for the software and is responsible for hosting and maintaining it. The Table A provides a comparison of these two models.

Table A. Comparing the Licensed Model with the SaaS Model

	Licensed model	SaaS model
Choice	<ul style="list-style-type: none"> • An extremely wide range of applications is available from worldwide vendors. 	<ul style="list-style-type: none"> • The choices are more limited at this time as vendors and customers are in the process of getting comfortable with the SaaS model.
Cost	<ul style="list-style-type: none"> • Higher capital investment for software, server hardware, and implementation services. • Ongoing investments are required for maintaining and upgrading server hardware and software. • As an MFI scales up, there is limited additional payout to the vendor, compared with usage-based pricing. 	<ul style="list-style-type: none"> • Lower capital investment, especially for smaller MFIs, as the vendor provides the software, server hardware, and sometimes absorbs implementation services into the recurring cost. • No ongoing investments in maintaining and upgrading server hardware and software as these are handled by the vendor. • On the other hand, as an MFI scales up, payouts to the vendor can increase substantially.

Continues

Box 5 Continued

Infrastructure	<ul style="list-style-type: none"> · System is hosted in-house or outsourced to a third-party provider. · No mandatory requirement to implement a fast or reliable Internet connection, which is needed for SaaS. An MFI without access to fast or reliable connectivity can still find systems to work in its environment. 	<ul style="list-style-type: none"> · SaaS vendor is responsible for all infrastructure issues on the backend, such as setting up data center, ensuring uptime, performance, etc. · The vendor might host the system outside the MFI's country. If so, the MFI needs to consider how this impacts speed for accessing the system as well as any regulatory issues around hosting the system outside the country.
IT Staff	<ul style="list-style-type: none"> · The MFI will need IT staff for setting up and maintaining the infrastructure and the IS (backups, disaster recovery, upgrades, ensuring uptime, etc.). 	<ul style="list-style-type: none"> · Vendor is responsible for providing IT staff needed to manage the infrastructure.
Dependency on vendor	<ul style="list-style-type: none"> · The MFI depends on the software vendor for support issues with the system. It can outsource the infrastructure hosting and management to another vendor or keep it in-house. 	<ul style="list-style-type: none"> · The MFI depends more on the SaaS vendor as it outsources many of the activities associated with hosting and maintaining a system and associated infrastructure to the vendor. Consequently, the MFI must be able to objectively evaluate the ability of the vendor to provide these additional services.
Customization	<ul style="list-style-type: none"> · There is more scope for customization and ability to add feature requests for a specific MFI as compared to the SaaS model. 	<ul style="list-style-type: none"> · The SaaS vendor typically maintains a single version of the software for all MFIs, upgrading it as the vendor adds more features. Consequently, there is less flexibility in terms of the customizations the vendor can offer an MFI, especially if the customization is not applicable more generally.
Access to backend	<ul style="list-style-type: none"> · MFI staff have full access to and control over the backend server for accessing their data, performing backups, upgrading the hardware, etc. 	<ul style="list-style-type: none"> · The SaaS vendor typically restricts MFI staff from directly accessing the backend server. This is required for security purposes as the server might be hosting data for other MFIs as well. The MFI can access its own data using the frontend and export it for further analysis.

Under the SaaS model, the upfront costs are much lower but, as the institution grows, payouts to the vendor can increase substantially. On the other hand, the licensed model has a higher upfront cost, but a more predictable and, generally lower, ongoing cost as the institution grows.

A projected five-year total cost of ownership (TCO) of both options will help provide a fair comparison if vendors for both models are short-listed. For the licensed model, the institution should look at the costs over five years for the following:

- software licenses
- cost of implementation services
- estimated cost of software upgrades
- server hardware equipment (including potential upgrades)

Continues

Box 5 *Continued*

- data center space
- software and server hardware maintenance fees
- IT staff for maintaining the software and infrastructure

For the SaaS model, the institution can compute the five-year TCO using its growth plans, vendor pricing (usually per client or per account per month), upfront costs for implementation services, and costs for routine services related to adding a new product, for example. Note that, to compute the full TCO, the PMO might also want to consider costs such as connectivity, electricity, computers, printers, etc., for headquarters and branches that would be incurred under *both* models.

When an institution opts for an SaaS model, it should pay close attention to the Service Level Agreement (SLA) with the vendor. The SLA between the vendor and client outlines issues such as transaction processing time, system availability and up-time, incidence management, and service expectations for resolving issues. The SLA is critically important and should be reviewed by legal advisers.

Many MFIs operate in challenging environments with limited access to electricity and Internet connectivity. These factors may limit the technology options available and are important to consider. The PMO should work with the IT department to understand the existing IT strategy and examine the technical environment. Some examples of topics to address include the following:

- Do branches have reliable power, land telephone lines, and Internet connectivity? If not, are they available, and at what cost?
- What kind of data connectivity and speed is available/possible at the branches and head office? How much does it cost, both to set up and per month? Is it guaranteed to be reliable? This may determine how/if the institution is able to network its branches.
- Do loan officers often conduct business in the field? Do they have mobile phone coverage everywhere they work? Does the mobile phone network support GPRS, and if so, what is the cost associated with it?
- How much of the existing hardware can be used, and how much will need to be replaced? What hardware purchases can the institution afford?
- Does the institution already have licenses for database packages, such as SQL Server or Oracle?
- What level of IS staffing does the institution currently have—CIO, help desk and support, analysts, developers, database administrators, report writers, etc.?

Some aspects, such as electricity, may be beyond the control of the institution. These are especially important to document so vendors have an understanding of the operating environment. A detailed list of questions to consider is provided in the needs analysis template.

3.1.5 *Additional considerations*

In addition to the technical considerations, the institution should review the context in which the new solution will operate. In particular, an analysis of staff capabilities and the business environment may yield additional requirements.

3.1.5.1 *Staff capabilities*

What is the level of experience or comfort with computers among staff who will interact with the system? Staff capability may impact the project scope or generate specific requirements to make the solution more user friendly for the institution's environment. Consider the following issues:

- IT Management
 - Is there a strong IS or IT department, or will the department need to be created or strengthened?
 - Are the IT staff capable of standard software maintenance (backups, ad-hoc reporting, parameterization, etc.)? Are the IT staff capable of managing the IT infrastructure?
- Users
 - Are the majority of staff comfortable operating computers? Are there differences in computer literacy between the head office and branches?
 - Is the accounting staff accustomed to using accounting software? Will they be confident managing a sophisticated system?
 - How much training of users will be required?

A low level of computer literacy does not necessarily require that an institution select the simplest solution it can find, but it may mean that training will play a critical role or uptake of the system may be slower than if the staff were more comfortable with technology. The PMO should be aware of these limitations and keep them in mind when defining requirements and making decisions.

If the institution has a large number of staff who are unfamiliar with computers, consider conducting some basic computer training courses during the course of the IT project. This will help familiarize staff with the basics of computers and make them more comfortable when it comes time to train on the new solution.

3.1.5.2 Business environment

The PMO should note any context specific requirements, such as the following:

- In what language does the institution operate? Does the country have a non-Roman alphabet?
- Does the institution operate with different currencies?
- Is there a credit bureau or are there plans to create one?
- Are there opportunities to link with mobile payment systems, etc.?
- What are the regulatory reporting requirements?
- Does the institution report to donors, investors, or other outside parties?

These and any other requirements relevant to the operating environment should be included in the requirements document.

3.2 Prioritize Requirements

Developing specifications for a new system can be exciting, but be realistic and always think back to how the new solution will help get the institution to where it wants it to go. Prioritizing requirements accordingly is critical to the success of the project. Keep in mind that the more requirements deemed as essential and the less the institution is prepared to change some processes to fit in with a new system, the more the system is likely to cost.

When prioritizing requirements, one approach is to define priorities based on when the functionality is required. For instance, every functionality required today plus those the MFI is 100 percent sure it will need in the next five years would be labeled “Essential.” “Desired” functionality is needed in five years time but is not yet certain. “Nice to have” functionality might be needed some day, but is not important now.

Along these lines, here are some additional points to consider that may help prioritize requirements of the new system design:

- How willing is the institution to consider changes to its lending and institutional policies and work processes that may be needed to accommodate this new system?
- What additional skills will the institution need among its staff to implement the desired functionality?
- How will staff competencies be improved to effectively use the system?
- How will the institution support and maintain the new system?
- Will some of the functionality requirements need additional infrastructure, (e.g. a network system, additional hardware, back-up power, communication lines)? What is the cost/benefit of the infrastructure versus the functionality?

3.3 Obtain Sign-off

At this point in the process, the PMO should be equipped to compile a needs analysis document with the following elements:

- Institutional/business overview (purpose, scope, background, etc.)
- Methodology
- Functional requirements
- Operational requirements
- Technical specifications

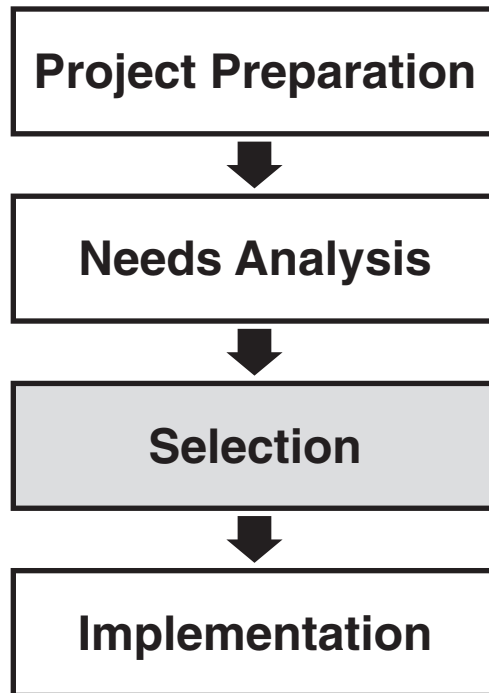
Before signing off, the steering committee should review the document with particular attention to a few key areas:

- Are the institution's future needs accurately captured?
- Has the steering committee accounted for the business implications of the proposed requirements? For example, will the institution need to increase (or decrease) its IT team to manage the system? How will those positions be funded?
- If changes to business processes are proposed, have these been reviewed with the business units that will be affected by the change? Do the process changes have implications on staffing or revenue streams?

After the steering committee signs off, the PMO proceeds to the next phase, selection.

3.4 Key Takeaways

1. **Maintain focus on the stated project objective(s).** It is easy for the scope of the project to grow during requirements gathering as the tendency is to include all possible scenarios. However, the requirements document should be built to support the project objective(s) and be based on business needs, current and future, in the context of the operating environment.
2. **There is a tradeoff between functionality and cost.** Determining the institution's threshold for this tradeoff and prioritizing requirements accordingly is an essential component of the project's success.
3. **Strive to be specific and comprehensive,** but not overly detailed. Determine the institution's willingness to adapt processes to the solution, if needed and helpful.
4. **Ensure adequate sign-off by the necessary parties.**



SELECTION	
Objectives	Tools
4.1 Prepare the tender	Annex 3. Request for Proposals Template
4.2 Conduct transparent and competitive procurement process Issue Request for Proposal Evaluate proposals and award tender	Annex 4. Vendor Demo Evaluation Template
4.3 Negotiate contracts with sufficient leverage to ensure successful delivery	
4.4 Key Takeaways	

Once the Steering Committee signs off on the needs analysis, the PMO can begin a procurement process to identify a solution that will address the institution’s needs.

Conducting a competitive process is not easy, but the benefits typically outweigh those of a sole source selection. First, a competitive process expands the options available so the institution is more likely to find a solution to meet its needs. Second, it improves the commercial terms since providers will strive to offer a competitive price when they know that their offer is being compared to other offers. Third, a competitive process can provide significant leverage to the buyer, particularly to smaller buyers, in negotiating contract terms as all parties know that the buyer has other options. Finally, it ensures transparency in the use of investment resources.

A successful competitive process is well organized and carefully managed by the PMO with oversight from the steering committee. With adequate preparation and a solid set of requirements, the best solution is likely to stand out among others.

4.1 Prepare the Tender

MIX Market’s list of technology providers (<http://www.mixmarket.org/service-providers>) is a good place to start for identifying possible solutions. Many of the products listed on MIX have been evaluated by CGAP. Evaluations include basic information that can be useful to eliminate products that clearly do not meet the institution’s needs in terms of pricing, language, regional coverage, core functionality, etc.

Local associations and other institutions can also be good sources of information. Ask around to learn what products others are using or may have considered, or ask for feedback on potential solutions identified by the PMO.

Identifying a list of potential providers early on (the long list) can be helpful to ensure sufficient response to the procurement process. Do not limit options to only local vendors. While local presence and support capacity is important, vendors who face a lack of competition in a market may drive prices up and deliver a low quality of service so it is important to explore many options.

Issuing a call for expressions of interest (EOI) before issuing the request for proposal, (RFP) can help identify providers who may be in a position to participate in the tender. The EOI provides a high level description of the general characteristics of the system to be procured and requests vendors to provide a similarly high level response explaining their ability to fulfill the general requirements.

A few high level decisions should be made prior to issuing an EOI. Decide whether the institution has a preference for core banking systems or systems built specifically for microfinance. See Box 5 for a discussion on the differences between the two and some implications to consider.

From the initial research and/or an EOI, create a long list of products and conduct a high-level scan of these offerings with the aim of narrowing down the list to about three to four products. Factors to look for include the following:

1. Does the vendor have a product(s) that covers the functionality requirements that are most important to the institution?
2. Does the vendor have a local presence or affiliations with local service providers?
3. Are the solution's user interface and support services offered in the working language of the institution?
4. Is the solution offered at a general price point the institution can afford?
5. Are there users similar to your institution who are pleased with the product and vendor?

The vendors on the resulting short list would be invited to submit a proposal via the RFP.

4.2 Issue Request for Proposals

RFPs typically contain the following components (see RFP template in Annex for more details):

- Institutional overview of MFI and operating environment (from needs analysis)
 - Mission, background, purpose, and scope of project, etc.
 - Business process maps of current processes
 - Summary of reports
 - Technical environment

Box 5. Commercial Banking Systems versus “Built for Microfinance” Systems

As part of vendor selection, the PMO will come across two types of systems:

- Systems, built for mainstream banks, that have been modified to incorporate some microfinance features, such as group lending and flat rate of interest. Examples include Flexcube from iflex, and T24 from Temenos.
- Systems built from the ground-up for microfinance. Examples include Kredits and Loan Performer from Crystal Clear Software.

Commercial banking systems have a few advantages over systems built specifically for microfinance. These advantages include the following:

- **Scalability.** Commercial banking systems are designed to be highly scalable in terms of the amount of data and the number of users they can support. Thus, the MFI can be confident that the system will support its expansion and growth plans as it adds new customers, products, branches, and delivery channels.
- **Security.** Commercial banking systems are designed with banking grade security in mind and will typically have more security features preventing unauthorized access to the data, full audit trails, etc.
- **Product and feature set.** Commercial banking systems will have a much larger product and feature set compared to systems built specifically for microfinance. Commercial banking systems may account for a variety of savings and loan products and the ability to interface with multiple delivery channels, such as ATMs and Internet banking. In addition, these systems typically have modules to enable money markets, foreign exchange, credit bureau, and other commercial services. Although the MFI might have very limited needs at the onset, it might be able to take advantage of the additional products and features as it grows and matures.

Disadvantages of commercial banking systems may include the following:

- **Core feature set.** Core features for MFIs, such as group lending, flat rate of interest, weekly repayments, collection sheet production, etc., might not be added to the system in the most efficient manner, leading to significant operational inefficiencies as compared to systems built for microfinance.
- **Configuration.** Generally, commercial banking systems are designed in a way that enables them to be configured by the vendor implementation team to exactly fit the bank’s operations. This typically means that the solution is not designed to

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Box 5 *Continued*

work off the shelf and may require a great deal of time and effort to be configured for each institution.

- **Usability.** Commercial banking systems are designed for operators with higher skills and computer proficiency than typical users at MFIs. Given the much larger product and feature set, the user interface can be quite heavy and confusing to a typical MFI user and often requires more day-to-day maintenance by the IT department and ongoing support from the vendor for tasks, such as new product creation or report definition.
- **Total cost of ownership.** Commercial banking systems can be quite expensive not only in terms of licensing, implementation, and maintenance costs, but also in terms of hardware, system software, and IT staff required to run them.
- **Connectivity requirements.** Commercial banking systems often require a high bandwidth connection for branch-based access. This might be expensive for MFIs, especially those with operations in rural areas.

While commercial banking systems may be a better fit for MFIs that are planning to extend the type of services they offer or are intending to transition into a commercial bank, commercial banking systems may be more complex and expensive than necessary for institutions that are planning only limited growth in their client base or are planning to offer a limited number of new products.

As with all decisions, refer back to what the institution is trying to accomplish with the systems upgrade. Does the institution plan to increase the number of branches over the next five years? What levels of growth does the institution expect in its client base? Does the institution plan to offer products that would require real-time connections to external services, such as money transfers or credit cards? Will the institution be linking to an ATM network, mobile payments platform, or credit bureau? Consider what the project is trying to accomplish, and then weigh the pros and cons of a commercial banking versus a designed-for-microfinance solution to determine which approach is best for the institution.

- Response guidelines (overview of information the institution wants to receive from vendors and in what format)
 - Vendor profile, credentials, references
 - Solution overview, including product history, technical specifications, network architecture recommendations, and options

- Pricing for license, implementation, and ongoing maintenance
- Pricing and process for implementation and support
- RFP submission and format for Response (when and how to submit the response)
- Evaluation methodology (quantitative approach is typically recommended but depends on internal factors at each institution)
 - Quantitative—can be highly efficient and objective, but is limited in flexibility and may still be subject to personal opinion or interpretation of answers. A clearly articulated RFP and requirements document can avoid opportunities for interpretation.
 - Qualitative—more flexible, but highly subjective and arriving at a final decision by consensus can be a challenge.
- Requirements document (formatted for vendor responses, remind vendors that they should be prepared to conduct a demonstration of all functionality claimed to be covered by the solution)

Regardless of the methodology, articulate the process clearly in the RFP, and follow it precisely when it comes time to do the evaluation. Determining the evaluation methodology in advance will prevent any challenges to the results internally or externally.

Send the RFP to the vendors on the short list and post for the public on the institution's Web site, local and international newspapers, and other relevant industry Web sites. Provide enough time for vendors to read the requirements carefully and prepare a thorough response—four to six weeks is usually sufficient.

Vendors often have numerous questions as they read and interpret the requirements document. The PMO may consider providing a period of time where vendors can submit questions in writing, and the institution will address those questions. In such cases, to maintain the integrity of the process, it is important that (*i*) the “rules” for asking questions are communicated clearly to all participants (what kind of questions to submit, how to submit them, and the time frame for doing so) and (*ii*) the answers/clarifications should be provided to all contenders (even to vendors who didn't ask the question), to make sure all providers have access to the same information when preparing their response.

In the meantime, continue conducting due diligence on providers:

- Request additional written material from the vendor, including a demonstration version of its product when available, which the PMO can begin to explore on its own.
- Contact references provided by vendors in their response to the EOI. Visit institutions that use the product to gain insight into the characteristics of the product, quality of support provided by the vendor, and the overall user experience. Consider learning from institutions the size you hope your institution will be in 3–5 years. Consider visiting institutions serviced by the vendor that are not on the list of references provided

by the vendor so that the PMO can get a balanced perspective. Past performance is often a good indicator of future performance so ask lots of questions of other users. No software is perfect so while there may be aspects of the software one has to live with, it is better to know about these faults or limitations upfront, rather than discover them at a later stage.

4.3 Evaluate Proposals and Award Tender

4.3.1 *Develop a short list for further evaluation*

Review the materials received from each vendor in detail. Looking at the most important criteria first, are there any solutions that clearly do not meet the institution's needs? If so, remove them from the process and focus on the others.

Care should be taken when reading vendor responses—vendors can be overly enthusiastic and mark a requirement as “standard within the system” when accompanying comments show it to be “standard by using a manual workaround.” Therefore, comments accompanying any response should be read carefully to determine whether the requirement is met satisfactorily or not. Evaluating proposals should be conducted with an extremely critical lens.

4.3.2 *Attend demonstrations by short-listed bidders*

Once the options are narrowed down to two or three solutions, ask short-listed vendors to demonstrate their product in person. Use the vendor demonstration evaluation tool to help the PMO create the test script and evaluate vendors.

Determine in advance what you would like the vendor to show you. This is best done by writing a test script—a sequenced list of processes you would like the vendor to demonstrate. A test script should include a range of different transaction sequences together with expected outcomes. Wherever possible, this should include calculations that should be produced at each stage, so you can double check that the outcomes are as you would expect.

Some institutions prefer to share the test script with the vendor before the scheduled demonstration to ensure that the vendor's presentation is well organized and that time is used efficiently. On the other hand, sharing this information in advance gives the vendor the opportunity to build a customized demonstration version of the software that can do all of the functions listed, whether or not these functions are actually standard. By withholding the test script from the vendor until the time of the demonstration and requesting that the vendor bring a fully working version of its software that includes all

functionality marked as “standard” in its response to the RFP, the PMO is more likely to get a good sense for whether the software can really do all that is indicated in the requirements document.

When possible, send vendors samples of the institution’s data, such as a list of products and their features, a copy of the client loan agreement or savings passbook, and a selection of key reports, to use in their presentations. If there are any high-priority functionality requirements that might be unique or especially tricky, be sure to explain these to the vendor and provide examples.

A vendor demonstration should first walk through all of the core functionality that would be used daily by the institution. Next, it should present user-defined features and show how to set up and edit financial products, users, and other global system-level controls. The majority of the session should be spent following the test script. Throughout the demonstration, document results and output, and check that they are as expected. Wherever possible, make screen prints or print reports to reference later when the PMO is making decisions. Finally, the vendor can end by demonstrating functionality outside the scope of the requirements document, but that might be of interest to the institution.

The following are some common scenarios to consider including in the test script:

- Open an account for a new client, maybe with both a loan and savings account
- Print collection sheets and record payments for an entire village banking group or several groups
- Post a payment that is late/early/missed
- Reschedule or write off a loan
- Set up a new loan product in the system with various conditions and terms
- Generate a report of loans in a given geographical region and that are more than 30 days late
- Query all loan officers with clients in arrears
- Query all active clients who have been members for more than five years and have children
- Set up a new user (employee) in the system with restricted privileges
- Review transaction logs for errors or security breaches

Some other areas to consider during the testing process are as follows:

- Forms—What types of forms does the system produce? If the institution uses a savings passbook, for example, can the system print to the existing format, or will you’re the passbook need to be redesigned?

- End of Day procedures—What types of processes need to be run by the IT department, and how often? Is the IT department experienced enough to manage this?
- Exceptions—Computer systems are logical and, therefore, run on a set of rules. If the institution make decisions on a case-by-case basis (such as whether to apply late repayment penalty, for example), are there ways to override the default, or is it better practice to change the policy?

In addition to key functionality, be sure that the solution is suitable for the institution's environment. The following are some suggestions for relevant tests. The vendor may need to prepare these in advance, so the vendor will probably need to be informed that the PMO wants to see certain technical configurations in operation:

- Run the system on a small network using the minimum connectivity found at the institution's branches (assuming it is a centralized system that requires branch connectivity).
- Undertake load/performance testing to determine how the system performs in terms of data entry and report generation with the amount of data the institution expects to have in 3–5 years.

Request all vendors to follow the same test script to get an accurate comparison. Use the vendor demonstration tool to evaluate the demonstrations along the following categories:

1. Software performs this functionality (compare to the answer the vendor gave in the RFP and make a note on any variations)
 - S: Standard
 - C: Requires customization
 - F: Available in future release within twelve months (be sure the vendor provides a timeline)
 - N: Not available
2. Software matches the criteria set out in the specifications document (1–5, with 1 being poor and 5 being excellent)
3. Comments on reasons for the score and other observations

When reviewing the software, keep in mind that no single application will meet 100 percent of the institution's needs. Be prepared to compromise on areas that are not completely crucial to the business, or where operational policy may be revised—many systems are designed using best practice principles, so you may find that revising the way the institution works to fit a system is better in the long run. Where customization or

workarounds are required, ensure that you understand how the vendor proposes to address these and check that these costs are included in the price.

4.3.3 *Make recommendation to steering committee*

The result of all this due diligence should be an IS application (or possibly more than one) that the PMO feels confident will best meet the institution's needs. After the live demonstrations, the PMO should review the information gathered in the selection process and come to a final decision. If the priorities have been clear throughout the process, the decision should not be too difficult. The more discussion and buy in from key decision makers early on and along the way can make this final choice much easier for all involved.

The PMO should present their recommendation to the steering committee for approval. With approval from the steering committee, the PMO should award the contract to the selected firm.

4.4 **Negotiate Contracts with Sufficient Leverage to Ensure Successful Delivery**

Once a software solution is selected, it is time to negotiate the contractual terms with the vendor.

Ensure that the vendor's written responses to the RFP are incorporated into the contract. The contract should state specifically what the vendor has agreed to provide for the stated price. If there are any changes that arose during the demonstration, the vendor should be requested to review its responses to the RFP and submit a revised response that it is confident it can legally commit to.

Any customization should be itemized, with a fixed number of days of work and pricing specified. Avoid customization quotes that are "subject to specification" after the contract has been signed. This presents a significant risk and is best avoided by requiring all quotes for customization to be included in the contract.

Arrange to pay the vendor in tranches based on mutually agreed milestones. Avoid paying too much up front as the institution will lose leverage with the vendor to deliver on time.

There are typically four areas in which the PMO will need to negotiate with the vendor:

- Software license
- Implementation
- Annual maintenance and support
- Other ongoing support

The institution will typically sign one contract with the vendor covering each of these areas, as applicable, but the PMO should pay close attention to develop specific milestones and deliverables related to each of the above categories.

4.4.1 *Software license*

Software licenses differ in several respects from purchasing other goods and services. Most importantly, software licenses refer to an institution's right to use a software program. In most cases, this will not provide a user with access to the source code, so the user depends on the vendor to make certain changes that may be required in the future. Depending on the pricing structure, a vendor may have a set price per user, a price based on a range of users (e.g., 0–5 users, up to 25, up to 50, up to 100, over 100 users, etc.), and/or a price based on number of branches. Since it is relatively easy to increase the number of users per license by simply paying more, it is better to be conservative initially about the number of user licenses purchased. The software license should also include operator and user manuals, as well as some form of online help in the actual application.

The following are a few key questions regarding software licenses:

- Does the license allow the institution to use the software indefinitely, or for a fixed period of time?
- Where software licensing is based on a price per user, is that per named user, or per concurrent user? This can make quite a difference in pricing, as generally not all people who use the system will be doing so at any one time.
- Does the vendor have a copy of their software in escrow? This protects the institution in the event the company goes bankrupt in the future.

As mentioned earlier, customization costs should be shown separately as a fixed cost. Even if the vendor agrees to do customization for free, it is important for it to commit to completing this work within a certain timeframe. Heavy customization (free or chargeable) can impact the implementation plan, require a lot of involvement by the institution's staff in specifications and testing, and have an increased risk for bugs, which take extra time to resolve. The institution should work with the vendor to be entirely clear on what is included (and what is not included) in the license fee.

4.4.2 *Implementation support*

The vendor will typically offer consulting and support services during the implementation period and beyond. These may include project management, guidance and assistance

with data migration, management, and user training. In certain cases, the vendor may have a local partner to carry out the implementation support, or the institution may also consider working with an independent firm for implementation support.

The following are a few questions to consider regarding implementation:

- How involved will the vendor be in converting data from the existing system—will it be responsible for extracting, cleaning, and importing, or only importing? Typically, vendors require an institution to extract data from its legacy system into a standard intermediate format. If that is the case, does the IT department have the skills to do this? Request a copy of the intermediate format from the vendor to verify whether the institution's data can be easily formatted in the vendor's template.
- Will the vendor be directly training users, or will they train a limited number of people who will train everyone else?
- If an overseas vendor is selected, how will translation and/or localization be managed?
- How often will the vendor be on site, and are travel and accommodation costs included in its price?

The amount of support needed depends on the institution's internal IT staff capacity and readiness for the new solution. Before discussing the costs for these services, the PMO should strongly consider the type of support needed to get the software up and running as quickly as possible, and develop an implementation plan outlining the institution's needs in these areas (see Section 5 for guidance on developing an implementation plan).

4.4.3 Ongoing maintenance and support

The maintenance portion of the contract typically provides the institution with the following:

- Product upgrades as they are released. Verify whether the system is designed to allow upgrades to be applied seamlessly, or if onsite time by the vendor would be required.
- Technical support and bug fixes if problems arise with the application or the database (may be provided by phone, email, a Web site, and/or in person).
- User support for individuals interacting with the application daily. Check if the vendor will accept calls from any staff, or requires a central single point of contact.
- Programming hours for creating special reports or other types of ad-hoc minor customization requests.

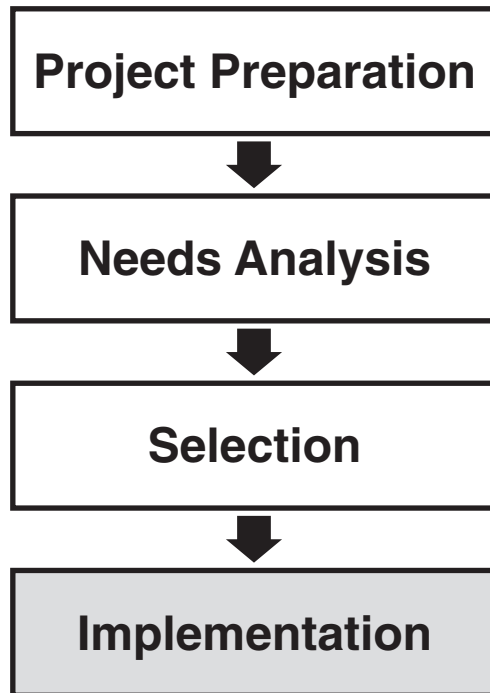
The maintenance portion of the contract should specify the amount of support to be provided, in what languages, and the guaranteed response time, without additional charges

being incurred. Penalties for nonperformance and escalation procedures should also be defined. These elements of the maintenance contract are critical to the ongoing success of the solution and form the basis of the institution's relationship with the vendor. Discussing these issues in depth and up front will result in a successful implementation.

The maintenance portion of the contract is generally based on an annual percentage of the cost of the initial software license. The contract should clearly state whether the percentage is fixed for a period of time, or if there is a maximum that it may increase by. Depending on the distance to the client site, travel expenses, per diem expenses, and an hourly rate may be charged to the client as well. The contract should also specify a fee structure for any support services that go beyond the limits of the contract.

4.5 Key Takeaways

1. **Design the evaluation methodology to find the best solution for the institution's business needs, not just the best technical solution.** Use the requirements document to conduct a quantitative evaluation with clearly defined requirements prioritized according to the institution's objectives. This will make it easier to design an evaluation process to produce an optimal outcome.
2. **Reduce risk by conducting a thorough product demonstration and contract negotiation.** The institution's leverage will be greatly diminished once the contract is signed so before doing so, carefully vet the vendors responses to the RFP and schedule payments to encourage timely and complete delivery of the work.
3. **Be prepared to adapt some processes to the new IS solution.** Unless the new IS is built from scratch, it is virtually impossible to find a product that will match 100 percent of the institution's requirements. Be prepared to work with a solution that matches 80 percent of the institution's needs, and requires that some processes be adapted to fit the solution.



IMPLEMENTATION	
Objectives	Tools
5.1 Develop Implementation Plan	Annex 5. Implementation Plan Template: Project Management and Communications Hardware, System Software, Infrastructure Configuration Customization Business Process Design Data Migration and Reconciliation User Acceptance Testing Training Rollout Annex 5a. Implementation Timeline
5.2 Implement system and conduct user acceptance tests	
5.3 Conduct data migration and reconciliation	
5.4 Obtain sign-off and close project	

The implementation phase transforms the solution from a plan to a functioning system and encompasses project management, hardware installation, software installation, data migration, user acceptance testing, staff training, and process alignment.

Substituting or implementing changes to a core banking system that supports the daily operation of a business is difficult and is often greatly underestimated in terms of time and resources required. It is best not to combine this with any other major initiatives that would lead to significant changes in the institution, or to undertake this initiative at a time when staff will likely be especially busy.

Particular attention should be paid to change management during the implementation phase. Changes in product features or other aspects that affect the operations need to be identified and documented, and the staff involved in those operations should be trained in the new procedures.

5.1 Develop Implementation Plan

An implementation plan should break down the steps needed to bring the entire institution online with the new software in an organized, manageable manner. No two implementation plans are the same, even when installing the same product, as every institution’s context, staff skills, and available resources are different. The implementation plan documents activities, a strategy, and a timeline. Institutions can use the implementation plan template found in the Annex as a guide.

Plan ahead and pace the implementation and conversion process. While the initial installation and conversion generally should take two to six months, it may be more than a year before the institution is fully up and running on the new system, depending on the scope of the system.

If the new system includes functionality beyond the institution’s current needs, organize the implementation plan to indicate that work will take place in stages. The imple-

mentation plan should incorporate all of the information on if, how, and when the institution intends to make use of the new functional components so this can be referenced at the appropriate point in the future.

5.1.1 Develop Plan

The following is a list of tasks to be considered in the implementation plan, along with some key questions to consider when developing the plan.

Project Management and Communications

- Will the implementation be phased?
- How fixed is the timeline?
- What level of effort will be needed to keep the plan on time and within budget?
- Who in the institution can be temporarily reassigned to manage the implementation? This is a full time responsibility. If there is not an internal candidate to manage the process, strongly consider hiring someone before beginning the implementation process.
- What previous experience does this person have with IS software implementation or the current MIS of the institution?
- For what length of time will this person be needed?
- How strong are this person's troubleshooting (problem solving) skills?
- Could this person benefit from project management guidance from the vendor or an external consultant? If so, how much guidance would this person need?
- What other staff within the institution will be needed, at what stage, and for how long? How can their time be managed to ensure their day-to-day work does not suffer?
- Are there any key holidays or events during the proposed project timeline that would result in key people being less available?
- What is the communications plan? Ongoing communication within the institution is critical to getting staff excited about the new system. This is a key part of change management.
- How often will the PMO meet during implementation?
- At what stages does the PMO need to provide updates to the steering committee?
- What are the key risks for the implementation; how will these risks be mitigated? For example, lack of computer literacy among staff might be mitigated by putting computers into branches earlier and having staff start accessing email using these.
- How will success be measured? Review the indicators defined during project preparation and update as needed.

Hardware, System Software, and Infrastructure

- What will be the hosting arrangements? See Box 6 for a detailed discussion of hosting options.
- What hardware, system software, and infrastructure (power, connectivity, etc.) are required at the head office and branches? What is the configuration required for each of these, given the new system and the expected load (amount of data, number of users, etc.) initially and the forecasted load in the future? When would upgrades be required?
- How much of the existing hardware can be used? How much will need to be replaced?
- What new hardware needs to be purchased?
- Do facilities need to be improved for the safe storage of hardware (e.g., climate control, security, etc.)?
- Do generators need to be purchased to supplement power supplies? How will the institution ensure that operations are unaffected by power outages?
- What networking or Internet connectivity is needed at the head office and/or branches? How are operations protected from disruptions in case of connectivity outages?
- What support will be provided to branches in case of failure of computing infrastructure (computers, peripherals, power systems, etc.)?
- Does the institution need to find data center facilities for hosting the application?

Configuration and Parametrization

- Who will work with the vendor to configure products, reports, look and feel, and other institutional specific elements of the solution?
- How will the institution ensure that the vendor has understood and captured these correctly to prevent multiple iterations and delays?

Customization

- What level of customization will be required to the system software? Have the customizations been prioritized into essential, desired, and nice to have based on business impact, cost in terms of time and resources, and presence of alternative solutions?
- Who will oversee the deadlines and deliverables of the vendor?
- Who will be responsible for developing customization test scripts and testing the adaptations?
- How will the institution ensure that customizations do not lead to problems in the future in terms of support and upgrades from the vendor?

Box 6. In-house Hosting versus Outsourced Hosting

An important decision for the PMO is whether the system should be hosted in-house—i.e., on the institution’s premises—or whether hosting should be outsourced to a third party. When outsourcing, the institution pays a fee to a hosting company rather than invests in its own IT infrastructure. The cost of the hosting company’s IT investment is distributed among the hosting company’s many clients, which can make outsourcing an efficient and cost-effective approach.

However, the institution should evaluate whether it needs a sophisticated data center, which would be provided by a hosting company, or whether a simple, in-house setup would be sufficient and possibly more cost effective. In deciding whether or not to outsource hosting, consider the following:

1. Is reliable access to data critical for the operating model? How much server downtime can the institution handle without impacting operations?
2. Does the institution have a server room or location that can reliably host its own server—with adequate power, connectivity, and security? If not, does it have the resources, space, and capacity to set this up and maintain it on its own? Is it easy to find qualified staff to do this? What would it cost to hire them?
3. Is there regulation that prevents the institution from having its data residing at a third-party location?

Based on answers to these questions, the institution should evaluate the costs and benefits of hosting the system in-house versus outsourced.

Institutions that opt for outsourced hosting should consider the following:

- **Co-location versus Managed Hosting**
 - Co-location involves purchasing space for the server with the hosting provider. The institution will need to purchase the server and install all the required software onto it. The institution may have the option of leasing the server from the provider. The data center ensures power, connectivity, security, and server uptime.
 - In the managed hosting approach, the vendor provides infrastructure to customers on a pay-as-you-go basis. The benefit over co-location is that the customer does not have to buy or lease the server and manage/upgrade it over time. Instead, the vendor provides the server based on the customer’s requirements and manages it for the customer. Usually, the customer is able to up-

Continues

Box 6 *Continued*

grade (or downgrade) the server in terms of computing power, memory, and storage (or even add additional servers) very easily and quickly and is charged accordingly. Note that some managed hosting providers only host Web-based systems, so pay particular attention if the selected system is non-Web based.

- **Factors to consider in a hosting provider**

- **Location.** If the institution uses its own server(s) and needs to have access to the data center, consider an easily accessible location. On the other hand, this might limit choices and increase pricing. If proximity is not important, look more widely within your country or even outside. If hosting outside the country, consider any potential challenges regarding (i) regulations and (ii) network latency.
- **Customer support.** The quality of customer support is essential. Look for a hosting provider that offers around the clock technical support and live technical support.
- **Reliability.** Check details of the data center, including network, power, cooling, hardware, and security, to understand how reliably the provider can guarantee uptime, speed of access, and data security.
- **Service level guarantees.** Look for a provider who offers guarantees on uptime, reliability, and customer service, with penalties in case of nonperformance.
- **Client reviews.** Check for online reviews of the hosting provider, and, if possible, contact a few clients to understand their experience.
- **Ease of access.** Understand how easy or difficult it is for the institution to access the server or to perform administrative functions. Usually there are Web interfaces that allow you to perform a variety of functions yourself rather than going through customer support.
- **Reseller.** Not all hosting companies own or lease their own data centers. Some of them are actually resellers for another hosting company. The disadvantage of using a reseller is the possibility of dealing with people who don't know much about the system they are selling and who take longer to respond to queries. If working with a reseller, investigate both the reseller and the actual hosting company.
- **Provider experience.** Find out how long the provider has been in business, and the number and prominence of other clients it is hosting.
- **Price.** While price is an important factor, consider it last and when deciding between two or more equally competent hosting providers.

Changes to Business Processes

Every new system will have some impact on an institution's processes, so do not overlook this step even if the changes are perceived to be minimal.

- What changes to the institution's processes and forms will need to be made to accommodate the new system? What changes can be made before the new system is in place? How will the PMO test these changes before rolling them out to the whole institution?
- What internal documents (process maps, operations manual, etc.) will need to be updated based on the changes?
- Who will oversee the process alignment process?
- How will changes be communicated to staff?

User Acceptance Tests

- Who will develop the test cases?
- How will the PMO ensure that these test cases are consistent with requirements?
- How will the PMO ensure that the test cases are comprehensive?
- What process needs to be put in place to manage identification and resolution of issues?
- What criteria should be followed to prioritize issues and make the right tradeoffs?
- What testing environment (hardware, software, licenses) are needed to conduct tests in an isolated way?
- How will that environment be populated with test data?
- Who provides the final sign-off for system acceptance?

Training

- What basic training is necessary for the IT staff and for the general staff? Conduct specialized trainings for different user groups, such as loan officers, branch managers, data entry staff, etc.
- Are there any training prerequisites?
- Who conducts the training and what is their training experience?
- In what language is the training offered? Is this the first language of the trainer?
- Is the training a structured, class-style format? Training is most useful when it is hands on and realistic, using the institution's data, forms, policies, and terminology.
- Is there a student manual with examples and practice exercises?
- Is there a trainer of trainers option?
- What follow-up training options are available for reinforcing basic skills, learning advanced features, or instructing new employees?
- What resources (space, computers, overhead, etc.) will be necessary for the training?
- Does the system have complete, well-written documentation that includes every term, function, operation, and error message?

Rollout

- Who will actually do the rollout, especially for the first few branches (i.e., vendor or staff)? Who will do rollouts for the other branches and for future branches?
- What is the rollout strategy (i.e., branch wise, functionality wise, etc.)?
- How will the rollout be managed from a practical perspective? What are the detailed steps that need to be followed?
- Will the institution do an immediate transition or run the two systems in parallel?
- What additional training or handholding is required for branch staff?

5.1.2 *Obtain agreement on implementation plan*

The plan requires broad support from the institution, so ensure that the different departments involved in the project have reviewed the plan in detail, provided sufficient feedback, and signed off on it. Once departmental sign-off is secured, the PMO should present the implementation plan to the steering committee for approval.

5.2 Implement System and Conduct User Acceptance Tests

The effort to implement and parameterize the new system may vary according to the context of each case. However, regardless of the case, at some point the institution needs to conduct a series of tests to ensure that the functionality of the new system is adequate (complete and correct).

User acceptance tests (UATs) are conducted over the functionality of a platform to identify whether or not the new system processes information in the way it is expected to. In most cases, these tests are conducted by or in close coordination with the different areas of the institution involved in the operation of the system. It is also often the case that these users develop the test cases. If the UATs are developed by somebody else (IT staff or external consultant), each business process owner should sign off on the content, outcomes, and comprehensiveness of the test cases. Test cases need to be consistent with the business, operational, and technical requirements used in the selection process. All of these are important since they will guide how the new system supports the institution's ongoing operation.

Users should go through the test cases and determine whether to fully accept each test case, accept with notes (does it function in a different way than expected, but is satisfactory), or reject a test case if the system does not satisfactorily perform the specified functions.

These tests are conducted in a controlled environment (not on a live system). To conduct the tests, the temporary system should have a partial data set. This data set can

be made up specifically for the test cases, or it can come from a partial migration done to populate the database for testing.

The formal acceptance of the system happens when a predetermined percentage of test cases are fully accepted. UATs are a critical step in the implementation process as it helps the PMO and vendor systematically identify issues and aspects of the system that are not working according to expectations. A good documentation and review process helps the institution ensure that issues are systematically addressed and resolved, which reduces risks and shortens the implementation time and keeps costs in check.

For new functionality, user test cases need to be developed based on the expected application and use of it. Internal experts on those products or functions may be assigned to lead this effort, or an external consultant may be hired for this purpose. A similar approach might be applicable for functionality that is not in use.

- Who will lead the UAT process?
- Which staff members will participate in testing?
- How will changes resulting from user testing be communicated back to the vendor?
- Who will create the UAT scripts from the specifications document?

5.3 Conduct Data Migration

5.3.1 *Design switchover strategy*

Institutions will need to decide whether to run both systems in parallel for a period of time (a phased approach to implementation, see Box 7 for more information) or to agree on a date when the old system stops and the new system starts (“big bang” approach). Decisions also need to be made around whether to convert all data, or a subset of data, such as only balances or currently active accounts. The decisions will be based on a number of factors, including how easy it is to extract data from existing systems, the current level of integration, and available resources.

If implementation is phased in, the phases may be organized by modules (functionality) of the software; by levels across the institution; or by region, branch, or department. An institution that has a high degree of decentralization may want to phase the rollout by regional office and branch, and not necessarily just by functionality. It is advised to select the best case for success during the initial phases of transition, which means selecting the region or level that has the highest degree of standardization in the institution or is the most prepared for the migration. The first phase may be fraught with unforeseen problems because this is when bugs are identified and issues are worked out. From the lessons learned in the rollout of the first phase, an institution should be able to improve the implementation plan for subsequent phases.

Typically, phase one of implementation will involve transitioning the institution's existing core operations from the old system to the new. It is vital to have checks in place at various stages to ensure that the old and the new systems reconcile at given points in time. To do so, compile a list of reports that should be run on both systems and agree on which balances or figures should agree. Exceptions need to be documented, (the actual extent of documentation may vary, but should be agreed with the provider), and a process should be put in place to manage and prioritize the list of pending issues. Because the differences may indicate that certain processes are not being conducted or that they did not execute properly, the actual data set in the new system may be inconsistent (within itself or compared to the old data set). The PMO needs to actively manage the prioritized pipeline of issues and the implications of the issues in the data set in the operation. A high disparity between the two databases would require a new data migration.

Phase two would typically involve the incorporation of systems or modules that were previously run on a standalone basis. For example, if the institution has been tracking life and loan insurance manually or in a separate software package from the loan tracking application, phase two of the implementation would be to develop a plan to begin tracking these data in the new software. Or, depending on the institution's fiscal year-end, consider waiting until the new fiscal year before converting to the new accounting module, making this the second phase of the implementation plan.

For some institutions, the third phase of the implementation may initiate new modules or features that were not used before. Whatever plan the institution undertakes for implementation, it is impossible to over prepare for the implementation of new IS software. Inevitably something unexpected comes up during the process. However, when the implementation plan is well thought out, handling unforeseen issues is much easier.

5.3.2 Identify key risks

Identify key business interruption risks and determine a plan to address them. The provider should sign off on this. Some of the major risks typically relate to potential modifications to the active database ("production system") if exceptions happen and cannot be rolled back. Identify ways to restore integrity of the system under different scenarios and circumstances.

Box 7. Running Parallel Systems

One of the key strategic decisions the PMO needs to make as part of the rollout strategy is whether, and for how long, the old and new systems will be run in parallel before the old system is switched off. While it might seem prudent for the institution to “test” the new system by running it in parallel for some time, for most off-the-shelf systems with only minimal customization, running in parallel is not really necessary and may even be counterproductive:

- The staff may have little extra capacity to absorb additional tasks. Having them enter the same data in two systems as part of parallel running increases their work and makes them resistant toward the new system. Similarly, being familiar and comfortable with the old system, staff will tend to enter data into it first and delay data entry into the new system, making it difficult to keep the two systems in sync and resulting in the old system being the primary system for the institution.
- Reconciliation between the two systems will prove very difficult on an on-going basis. Because the new system often becomes a second priority for staff, data will be incomplete. Second, data entry errors are inevitable. And, finally, the two systems might have slight differences, such as how they allocate payments and round numbers, that will make on-going reconciliation difficult. Reconciliation problems will also increase resistance toward and decrease trust in the new system.

From a change management perspective, it is best to minimize running the two systems in parallel. It is imperative to get data migration right, and subsequently fully test the new system during the UAT process and gain confidence that data reconcile between the old and new systems. Pay particular attention to customizations, as customized features are more likely to have errors than those that are standard to the system. The right time to actually run the two systems in parallel for a defined period is during UAT. Getting the data migration and UAT right will substantially eliminate the risk that the new system is producing “incorrect” results. Subsequently, assuming a branch-based rollout strategy, the institution should do an immediate switchover as it rolls out the new system across its branches. This will force branch staff to use the new system and allow them to learn it, trust it, and gain benefits from it much more quickly. As they gain benefits, they will become champions of the new system and help the change management process further.

In summary, while an immediate switchover to the new system might seem more risky, the reality is that the risks can be managed and the benefits from a change management perspective are substantial.

5.3.3 *Migrate data*

The difficulty and importance of this task is usually underestimated and requires thorough planning. Institutions should plan to minimize data migration as much as possible. One way to do this is to migrate only active loans rather than closed loans as well. Institutions may also do better relying on the vendor or external experts to handle both data migration and reconciliation than doing so themselves.

Often the new database has a different structure, has new data fields that previously were not captured, and/or enforces different/additional consistency rules. Any of these conditions will require manual intervention at the level of each data record. To address this in a practical manner, it is useful to develop a set of rules to maintain the integrity of each data record, how data consistency in the new database will be gained. The vendor can use these rules to develop automated processes to migrate the data.

- What data will need to be migrated to the new system?
- What issues are involved with converting the data (e.g., lack of a standard way of calculating interest from one branch office to the next)?
- What is the volume of data to be migrated?
- Given time, costs, and percentage of error, would a manual or automated migration, or a combination of both be better?
- Post-migration, how will the old and new systems reconcile?

5.4 Obtain Sign-Off

Once data migration is complete, the PMO should consult with the business units to ensure they are satisfied with migration and that the solution has been successfully implemented according to their requirements. If the results are not satisfactory, is a plan in place to address the outstanding issues? Once the business units sign-off on implementation, the steering committee should review the implementation plan to ensure all tasks are completed. The vendor should not receive final payment until the steering committee concludes that the solution has been successfully implemented.

5.5 Key Takeaways

1. **Develop and follow a detailed implementation plan.** If things go wrong during implementation, they can be difficult to reverse, leading to significant and ongoing problems with the IS. A well thought out, detailed implementation plan can help mitigate risks and manage the complex implementation process.

2. **Invest in a thorough UAT process, involving a range of staff who will use the system in a variety of ways.** Working with staff who will use the system on a routine basis will validate the new system and quickly point to any inconsistencies, bugs, or other problems.
3. **Minimize running the old and new system in parallel any longer than necessary.** Running two systems in parallel is complicated and can result in substantial and ongoing problems if it is not carefully managed. Detailed planning can help institutions limit the need to run parallel systems for longer than necessary to validate that the new system works.

5.6 Close the Project

Before officially closing the project, the PMO and steering committee should review the terms of the vendor contract to ensure that the vendor has fulfilled the requirements set forth in the contract. Typically a final payment will need to be made upon successful completion of the implementation phase.

While the project is considered closed, management of the system is just beginning. Some tips for getting the most out of the new system follow.

5.6.1 *Easing the transition*

- **Training.** Put into practice thorough and on-going training for all staff (to whichever level is appropriate) to create duplication in skill sets and greater capacity in the institution. This is not restricted to just software or computer training, but refers to any training necessary for a person to successfully execute his or her activities. Develop complete awareness of all the functionality in the software to get the greatest benefit of the application. Ensure new staff receive proper and comprehensive training, not just “as needed” information from one of their colleagues.
- **User Guides.** Consider combining process flows with cross-references to relevant pages of the software manual, and if necessary create a version of selected manual pages to reflect the way it is used in your institution. Ensure these guides are readily available to all staff and regularly updated—the easier it is for them to gain access to easy-to-follow instructions, the less likely they are to call on the IT Department for support, or to make a guess and a subsequent mistake.
- **Staff Feedback.** Provide a channel for staff to give ongoing feedback on the system and to make functionality requests. Solicit ideas for maximizing the system.

5.6.2 *Optimizing the system*

- **Process Reviews.** Conduct periodic reviews of employee work flows, followed by regular sessions to discuss potential process innovations, the scaling back of inefficient manual processes, and any other productivity improvements.
- **Hardware Assessments.** Consider purchasing additional hardware to enhance stability, efficiency, or safety of the system (e.g., power stabilizers, back-up servers, LAN hardware, GPRS modems, air conditioning).
- **Additional Applications.** Consider additional third-party applications that add value to the system (e.g., a report writer, financial planning software).

5.6.3 *Maintaining the system*

- **Develop a Management Plan.** Put in place a team and systems to actively manage the new solution. Active management will help the institution get the most out of the new solution, keep the business and technology in alignment, and protect the investment.
- **Updates.** Stay current with updates, patches, features, and challenges by keeping in touch with the vendor and/or other users. Join a user group (or suggest that the vendor create one).

Reference

Bridge, David, and Ignacio Mas. 2008. "Rural Connectivity Options for Microfinance Institutions." Technical Note. Washington, D.C.: CGAP.

Annex 1. Project Plan Template

Document Information and Sign-off

Document Name:	< XXX IS Project Plan >
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Document Revision History

Sr. No.	Version	Release Date	Author	Reason for change
1	1.0	xx-xx-xxxx	XYZ	

Document Signoff History

Sr. No.	Person Name	Designation	Sign-off Rec'd (Y/N)	Via H=Hardcopy; E=Email	Sign-off Version	Sign-off Date
1	XYZ	CEO	Y	H	2.4	xx-xx-xxxx
2	ABC	CFO	N			

Executive Summary

<Insert Text Here>

Purpose of Document

<Insert Text Here>

Steering Committee Membership

Person Name	Title	Department/ Branch	Role on Steer- ing Committee	% Allocation	Additional Information
XYZ	xxx	xxx	Director	50	On leave 10-25 October
ABC	yyy	yyy			
...					

PMO Membership

Person Name	Title	Department/ Branch	Role	% Allocation	Additional Information
XYZ	xxx	xxx	Project Man- ager	100	On leave 20–25 November
ABC	yyy	yyy			
...					

Project Management Procedures

Include here the frequency of PMO and Steering Committee meetings, decision-making processes, and other details to explain how the project will be managed.

<Insert Text here>

Define the Business Problem

Why is the institution embarking on this project, and what are the expected gains? What problems does the project aim to address? And, why now? Articulating the problems to be solved through this initiative helps the project team focus efforts and identify goals and objectives.

<Insert Text here>

Project Goals and Objectives

What are the specific goals and objectives? These will guide the team during the remainder of the process and help measure the degree of success at the end of the project. A sample table is provided below.

Objective	Indicator
<...Able to meet all routine reporting needs (management, operational, business)>	All routine and pre-defined reports needed by the different departments can be run by the department themselves on-demand. All ad hoc reports can be defined by the IT department and produced within 2 hours of a user's request.
Reliable system with minimal business interruptions	No more than 4 hours of time out-of-service per month during regular business hours
Improved operating efficiency	A teller or loan officer is able to process a transaction in less than X minutes Financial reports sent to directors within 2 days after the end of the month...>

Gather Documentation

Sample of documents to assemble

Accounting policies and procedures related to the functional areas impacted by the new system

- Relevant areas of the chart of accounts
- Copies of operating forms (vouchers, transfers, receipts, passbooks, etc.)
- Accounting policies manual
- Assessment of General Ledger reconciliation with subledgers
- If applicable, information on restrictions and requirements by all funders, parent companies, and regulatory bodies

Basic operating policies and procedures related to the business processes impacted by the new system

- Operations manual (many of the items below may be included in the operations manual)
- Organization chart
- Information and process flowcharts
- Copies of relevant forms (collecting client information, forms for analyzing, approving, and disbursing loans and collecting repayments)
- Cash management policies

Internal control procedures related to the business processes impacted by new solution

- Authorization mechanisms for loans, payments
- Savings withdrawals authorization limits
- Check issuance
- Payment and receipt handling
- Daily balancing (input documents, processed transactions, cash)
- Daily closing of tellers and operations
- Daily clearing of suspense and exception items
- Daily and cycle backup
- Custody of system backup media
- Custody of processed documents
- Custody of blank documents (checks, numbered receipts)
- Bank reconciliation
- System access (user rights, passwords, overrides)

System parameter values

- Descriptions of all products and accounts
- Coding lists used for such concepts as loan purpose and geographic and personnel codes
- Detailed information on calculation of interest, penalties, fees, holidays, rounding, rescheduling, write-off
- Sample registers from all loan and savings products (for repayment scheduling and interest calculations)
- Accounting fiscal periods
- Product account numbering procedures
- Security structure and access levels

Reports Currently in Use

- Loan portfolio reports
- Savings reports
- Portfolio quality reports
- Financial reports
- Accounting reports
- Regulatory reports
- Donor/Investor reports

Risks and mitigating actions

The following is a list of key risks along with mitigating actions. It is important for the organization to effectively manage these during the course of the project.

Risk Description	Risk Impact	Risk Likelihood (H/M/L)	Mitigation Actions
<p><Example>PMO – PMO members will not have adequate bandwidth to meet and execute the plan given other responsibilities</p>	<p>The project will get delayed and/or the burden will fall on a few members leading to suboptimal decisions, lower quality and low morale on the team</p>	<p>M</p>	<ul style="list-style-type: none"> • The PMO should meet on a scheduled basis and keep minutes including attendance • The project manager should be carefully chosen for ability to motivate team members and given adequate authority • PMO members should have an explicit allocation to the project and their managers should be notified about the importance of the project • Senior management should communicate the strategic importance of the project to the rest of the organization and present PMO membership as a “reward”
<p>...</p>	<p>...</p>	<p>...</p>	<p>...</p>

Change Management/Communications Plan

The project will directly or indirectly impact every single person in the organization. It is important to communicate early, regularly, and effectively to ensure buy-in from staff and prepare them for the upcoming changes.

Stakeholder Group	Key Issues/Concerns	Communication Plan (Frequency, timing, method, etc.)
Board of Directors	<ul style="list-style-type: none"> • Want high level status updates including timeline, costs, key challenges, etc. • Will need to approve the selected vendor and budget. • ... 	<ul style="list-style-type: none"> • CEO to provide project status updates at quarterly board meetings • CEO, along with PMO and Steering Committee, to present budget and vendor recommendation at board meeting post selection • ...
...	•	•

Preliminary Budget

The following is an estimate of the budget available for the IS project. Note that some costs are one-time costs incurred just in the first year (such as implementation costs), while others are ongoing costs (such as annual maintenance fees paid to the IS vendor). The budget should be reviewed throughout the process as the system requirements are further developed.

Category	Includes	Yr 0	Yr 1	Yr 2	Yr 3	Total
Hardware	<ul style="list-style-type: none"> • Purchases (servers, computers, printers, network cards, backup power supplies, generators, tape backup units, cables) • Infrastructure improvements (wiring, improved security, new work spaces, temperature and humidity control) 					
Software	<ul style="list-style-type: none"> • Licensing fees (usually charged per user or per installation) 					
Implementation Costs	<ul style="list-style-type: none"> • Customization • Technical Assistance (support during selection process, configuration, installation, and data transfer) • Staff Training • Extra staffing during implementation 					
Maintenance Costs	<ul style="list-style-type: none"> • Annual fee for technical support (typically based on a percentage of the license fee) • Future software upgrades, and modifications • Future hardware upgrades 					
	Total					

Major Tasks

The following is a list of key tasks expected during the course of the project with deliverables.

<Add/delete/modify or restructure the table based on your needs. This table is just meant to help you get started. For example, there might be additional approvals required from the board or other stakeholders at different points of the process. Also, you might want to think of a communications plan to ensure that the organization is informed and prepared to participate and change.>

Phase	Task	Description	Expected Deliverables	Responsible
Project Preparation	<ul style="list-style-type: none"> • Form Steering Committee • Form PMO • Define goals and objectives • Draft project plan • ... 			<ul style="list-style-type: none"> • PMO and Steering Committee formed • Project Plan • ...
Needs Analysis	<ul style="list-style-type: none"> • Define requirements • Prioritize requirements • Obtain Sign-off • ... 			<ul style="list-style-type: none"> • Needs Analysis • Requirements Document
Selection	<ul style="list-style-type: none"> • Prepare the tender • Issue RFP • Evaluate proposals and award tender • Negotiate contracts • ... 			<ul style="list-style-type: none"> • Shortlist of vendors for sending RFP • Vendor demo evaluations • Report showing final selection • ...
Implementation	<ul style="list-style-type: none"> • Develop implementation plan • Negotiate contract • Implement new system • Conduct data migration • Obtain sign-off • ... 			<ul style="list-style-type: none"> • Implementation Plan • Vendor contract • New system in production rolled out across the institution • Preliminary results from objective monitoring tools • ...

Project Timeline

The following is a timeline, by phase, for the project.

Phase	Expected Completion Date
Project Preparation	Week of <Date>
Needs Analysis	Week of <Date>
Selection	Week of <Date>
Implementation	Week of <Date>

Annex 1a, found on the accompanying CD and online at www.cgap.org, contains a more detailed timeline for the project listing phases along with tasks associated with each phase. Update the timeline as required. Also, the timeline should be used as a project management tool throughout the project.

Annex 2. Needs Analysis Template

Document Information and Sign-off

Document Name:	<XXX IS Needs Analysis>
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5.7 Document Revision History

Sr. No.	Version	Release Date	Author	Reason for change
1	1.0	xx-xx-xxxx	XYZ	

5.8 Document Signoff History

Sr. No.	Person Name	Designation	Sign-off Rec'd (Y/N)	Via H=Hardcopy; E=Email	Sign-off Version	Sign-off Date
1	XYZ	CEO	Y	H	2.4	xx-xx-xxxx
2	ABC	CFO	N			

Executive Summary

<Insert Text Here>

Purpose of Document

To choose the best possible technology solution, < Name> must have a thorough understanding of its information needs, both present and future. The process of gathering and analyzing this information is known as the Needs Analysis. This document aims to capture the output from this process and begin preparing inputs for the tender documents.

Institutional/Business Overview

<Potential sections to include. Customize for your needs.

- Mission, Vision, Strategy and Goals
- Key milestones

- Current Status (operational, financial, employees, branches, products and services, etc.)
- Projections
- Staff Capabilities
- Business environment
- Other?>

Methodology

<Brief description of the steps followed during the Needs Analysis phase >

Documents Reviewed

The following documents were reviewed during this phase

- **Business Plan**
 - ...
- **Accounting policies and procedures**
 - ...
- **Basic operating policies and procedures**
 - ...
- **Internal control procedures**
 - ...
- **System parameter values**
 - ...
- **Reports**
 - ...

Interviews Conducted

The data for this document was gathered through interviews with the following personnel.

Role	Personnel
CEO	XYZ
CFO	ABC
...	

Sample Staff Questionnaire

1. Describe your role and responsibilities. (Note: these should be cross-referenced to the relevant process maps, or if none are available, responsibilities should be broken down by function and each question below should be answered separately for each function. For example, a teller's responsibilities could include the following: recording savings account deposits and withdrawals, receiving loan repayments, issuing replacement passbooks, printing statements on demand, booking cash in and out of their drawer from the vault, reconciling their cash drawer, exchanging foreign currency, etc.)
2. What computer applications or other tools do you use to complete this function? (including which program from the menu if they are using an existing IS)
3. How satisfied are you with these applications and/or tools?
4. How might these applications and/or tools be improved?
5. Do you ever perform redundant actions? Please explain.
6. Who else do you rely on for data/information to accomplish your tasks?
7. Do any of your tasks require supervisor interventions and if so, at what stage?
8. Do other individuals or departments rely on you for information or reports?
9. What reports do you receive on a frequent or infrequent basis? Are these computer-generated reports?
10. Who generates/creates (runs) these reports? To whom are these reports distributed?
11. Are these reports stored anywhere for future reference (either in a hard copy or electronic version)?
12. Do the reports you receive reflect the appropriate data?
13. How do you use the information from these reports?
14. How do you request custom or ad-hoc reports? Do you create any ad-hoc reports on your own?
15. Do you receive any unnecessary reports or portions of reports?
16. Do you ever query a database (or similar) on your own to review pertinent information for accomplishing your job?
17. Are there any processes (tasks) within your department (branch) that you feel should be automated?

18. Are there any processes (tasks) within your department (branch) that are currently automated, but you feel require more time than they save? Please explain.
19. What decisions are made in your department?
20. What decisions do you make, and how frequently (daily, weekly, monthly)? What information do you use to guide these decisions?
21. Is there any information that you are not getting currently that you wish you could get to help you make better decisions?
22. What information do you provide to others to assist with their decision-making responsibilities?
23. What files or forms do you create backup copies of, either electronic or paper copies?
24. Are you satisfied with your computer or other hardware that you use? If not, explain.
25. Is there anything else you think we should be aware of regarding the current system, either the software or the processes and procedures?
26. Do you use email? If yes, how often and for what purposes do you use the email? If not, what other means of communication do you utilize and how often?
27. Do you use the Internet? If yes, how often and for what purposes do use the Internet? If not, why not?
28. Would you like to have email or Internet access? For what primary purposes would you use either of these tools?
29. Do you use a desktop computer or another electronic device to record appointments and daily schedules? If not, how do you make appointments or coordinate daily schedules in your job?
30. What do you anticipate your information system needs will be in the next few years (i.e. to support new products, further research, and greater client growth)?
31. In addition to portfolio management, what types of information should be managed with the new solution (i.e. accounting, social performance, management reports, human resources, etc.)?
32. Do you envision these systems being integrated with one another?
33. Are you planning to eventually adopt applications that operate through the Internet and if so, is this the time to begin moving in that direction?
34. How will your processes and institutional policies change as a result of this selection?

Business Process Maps

<Include processes that are expected to significantly impact or be impacted by the system. Below are some potential processes to include. Customize for your needs.

To learn how to create process maps, please refer to the Process Mapping toolkit on the Microsave Web site.

Below are some examples of key processes at a microfinance institution and sample questions to guide the mapping exercise.

1. Loan application and approval:

- What information is collected from a client at application stage? Where is the application recorded?
- Are any documents required during the evaluation stage? Is there a checklist of which documents are needed? Do these requirements vary depending on the product?
- Is there a checklist of actions that take place as part of the approval cycle? Where is it recorded when these have happened? Who records them?
- Who approves loans? Does each loan need to be approved by one person, or more? Does it depend on the loan value?
- What happens if an application is rejected? Where is it recorded? Can it be referred to later on?
- Does the client have to pay fees at any stage?
- Are there any other client preconditions that have to be fulfilled, such as savings?

2. Loan repayment:

- Are loan installments collected in cash, or from a savings account?
- Are loan installments paid in the branch, or in the field?
- What happens if a client does not make their payment on time? Is there a report that shows this? Does overdue interest start accumulating? Does penalty start accumulating?
- Can a client partially pay an installment? If so, which part of the installment is paid first—penalty, interest, or principal?
- Can a client pay an installment early? If so, is the amount they pay still the same?
- Can the client pay in another currency? If so, how is the value converted to the loan currency?>

The following is a sample inventory of business processes and the status of the corresponding process maps:

Function	Process Name	Process Map Status
Operations	Customer Acquisition	Completed
	Loan Approval	In development
	...	
Finance and Accounting	Bank reconciliation	
	...	
HR	Payroll	
	...	
MIS	Data entry process	
	...	
Internal Audit	Branch audit	
	...	

Requirements Gathering

Annex 2a, found on the accompanying CD and online at www.cgap.org, provides an excel document that can be used as a template for requirements gathering. The excel template includes worksheets for the Technical Environment Questionnaire, Summary of Reports, Products, and IS Requirements.

Technical Environment Questionnaire

An understanding of the current environment will later help determine requirements and any changes needed to support the new solution. The table below provides a sample of questions regarding the technical environment which can be used to determine the technical requirements for the new solution.

Category	Topic	Key Questions	Current State
IT Staffing	IT Helpdesk	<ul style="list-style-type: none"> • Who provides this service right now? • Are head office (HO) and branch employees happy with its timeliness and effectiveness? • Is it adequate for current and future needs? • Can this be outsourced? 	
	Network and server support	Same as IT Helpdesk	

	CIO	<ul style="list-style-type: none"> • Who determines what IT initiatives and policies are necessary? Who do the CEO/COO go to for discussing potential IT initiatives? Who manages implementation? • Who managed the last IT initiative? How did it go? 	
	Others (e.g., analysts, developers, database administrators, report writers, etc.)	<ul style="list-style-type: none"> • What do they do? • Are they adequate for current and future needs? 	
Network and Power	Internet connectivity	<ul style="list-style-type: none"> • How fast is it at HO and branches? • Is it reliable? Are there backup options in case connectivity goes down? • Who has Internet access in the HO and branches? How do they access it? What do they use it for? • What other options and providers are available and how do they compare with the current one in terms of speed, reliability and cost? • Is there a policy on reasonable internet usage for personal use? • How is the MFI's network protected from external risks such as hackers, viruses, etc.? 	
	Power	<ul style="list-style-type: none"> • Is there adequate power supply in the HO and branches? • What backup options are present? • Is surge protection present? 	
	LAN (Local Area Network)	<ul style="list-style-type: none"> • Describe the setup and how its managed in both the HO and branches. • Is the LAN being used to access the Internet, printers, servers, etc? 	
	Wireless access to LAN	<ul style="list-style-type: none"> • Is the strength good across the office, i.e., are there enough access points? • Is it secure? 	
	Firewall	<ul style="list-style-type: none"> • Is there a firewall? • Is it being used to increase security from hackers, viruses, etc. • Is it configured as per the internet usage policy of the organization? 	
	File server	<ul style="list-style-type: none"> • Is it being used to store and access common files such as the MFI's extension list, policy manuals, etc • Is it being used to store business critical files such as financial data that needs to be accessed by multiple users • Are there appropriate access permissions on these files? • Is there a folder for each employee to store her files e.g. backups (with storage limits) • Is the server being backed up properly? 	

	Others servers, e.g., for email, Web site hosting, business applications, databases, etc.	<ul style="list-style-type: none"> • What other servers are used—email, MIS, Web site, etc.? What are their configurations? • Where are they hosted? Can hosting be outsourced? • Who manages them? • Is access reliable? Fast? 	
	Data Center	<ul style="list-style-type: none"> • Describe the data center, if any, that is used to house the servers? • Does it have adequate cooling, power backup, and security? • Who has access to it and how is access controlled? 	
Office Productivity	Workstations	<ul style="list-style-type: none"> • Do employees have desktops or laptops in the HO and branches? • Are they satisfied with durability, speed, storage, IT support? • Are workstations standardized to one or two models, e.g., Lenovo T60 laptops for senior mgmt, HP 3600 PCs for other HO and branch staff 	
	Operating System	<ul style="list-style-type: none"> • Are all computers using the same version of the same OS, e.g., Windows XP SP2? • Is the OS licensed • Are the computers configured such that upgrades and patches are applied automatically/regularly? 	
	IT Helpdesk	<ul style="list-style-type: none"> • Describe the process of getting support from IT Helpdesk for HO and branch employees • Are IT Helpdesk processes documented and communicated to employees? • Is there a database to track and handle Helpdesk requests? • Are HO and branch employees happy with it—timeliness, effective? • Is it adequate for current and future needs? 	
	Microsoft Office	<ul style="list-style-type: none"> • Are all computers using the same version? • Is it licensed? • Are employees trained on using it effectively? • Are upgrades and patches applied automatically/regularly? 	
	Virus protection	<ul style="list-style-type: none"> • Do all desktops and servers have virus and spyware protection? • Is there real-time scanning of files and emails? • Are data files being downloaded and installed daily? 	

	Email	<ul style="list-style-type: none"> • Does the MFI have its own email address, e.g., joe.smith@mfi.com? • Who has email access in the HO and branches? How do they access it? What do they use it for? • Where is the email server hosted? • Does the email server check for viruses and spam? • Is it backed up properly? 	
	Other productivity software	<ul style="list-style-type: none"> • Are all computers using the same version? • Is it licensed? • Are employees trained on using it effectively? • Are upgrades and patches applied automatically/regularly? 	
Peripherals	Printers	<ul style="list-style-type: none"> • Is it present in branches? • Is it sufficient for users? • Is it reliable? Fast? • Who is responsible for maintaining it? For ordering and stocking supplies such as paper, toner, etc.? 	
	Fax	Same as Printers	
	Photocopier	Same as Printers	
	Scanner	Same as Printers	
Security	Backup policy	<ul style="list-style-type: none"> • Is there a documented and enforced backup process • For servers • For workstations/laptops • Application data • Secure offsite storage of backup tapes/disks on rotation basis • Test recovery of data from backups every x months • Who is responsible? 	
	Disaster recovery, such as after prolonged power failure, fire, flood, theft	<ul style="list-style-type: none"> • Steps to be followed after a disaster to get business back up and running as soon as possible. Are these stored in a safe, offsite location • Process is tested regularly 	
	Physical security	<ul style="list-style-type: none"> • Is the server room secure, locked, air-conditioned and well-ventilated with only a few people having access to it? • Is the office itself secured properly? • Can anything else be done to dissuade laptop/workstation theft? • Are computers setup such that if a user goes away from her desk, after a specified period, a password protected screensaver comes on? 	

	Password policy	<ul style="list-style-type: none"> • Password expiration and reset policy • Password formatting rules (e.g., number of characters, at least one special character, etc.) are good but not so difficult that users just write them down • Logging of password failures • System lockout after three failed attempts • All system admin and network related usernames and passwords are documented and stored securely 	
	Application security	<ul style="list-style-type: none"> • Are key business applications accessible only by authorized users? Do users only gain access to data relevant to them? Are back-end databases secure? • Security patches and upgrades for applications are applied properly on server and employee computers? • Is there a separate testing environment to test patches and upgrades before applying them to key business applications? • Who is responsible? 	

Summary of Reports

<Use the table below or the excel version of the table below which can be found in Annex 2a>

The following is a summary of reports currently in use:

Report Category	Report Name	Brief Description	Frequency	Used by
Loan Portfolio				
Savings				
Portfolio Quality				

Financial				
Accounting				
Regulatory				
Donor/Investor				

Products

<Use the tables below or the excel versions of the tables below which can be found in Annex 2a>

The following are the products offered by the MFI along with their main features.

Loan Products

	Product A (EXAMPLE)	Product B
Purpose	Basic working capital loan	
Loan size—minimum	USD 100	
Loan size—maximum	USD 1000	
Cycle/Group variations	At least \$50 more than previous loan cycle	
Loan period (minimum/maximum)	50 weeks	
Grace period for repayments (interest/principal)	30 days from date of disbursement	
Repayment frequency	Weekly	
Interest rate as % per annum (and calculation basis)	25% flat rate	
Interest calculation formula for installment	$(\text{Annual Interest Rate} / 52) * \text{Loan Disbursed Amt}$	
Penalty interest and calculation/ grace period	3% of outstanding amount overdue, 3 days grace period	

Unpaid interest is “charged” to account? If so, when?	Yes, during EOM process	
Accumulated penalty is “charged” to account? If so, when?	Yes, during EOM process	
Installment calculation	Calculated to show Principal & Interest with equal installments	
Mandatory savings requirement (upfront/disbursement/collection)	Not Applicable	
Fees levied to loan client on application/disbursement? Collected or deducted?	None	
Disbursement method	Cash	
Collection method	Collected in cash at weekly meeting in the field	

Savings Products

	Product A (EXAMPLE)	Product B
Eligibility	18 years and above	
Sole proprietor companies		
Initial minimum deposit	USD 120	
Minimum balance	USD 100	
Minimum balance to earn interest	USD 500	
Passbook	N/A	
Replacement of passbook	N/A	
Extra signature card	N/A	
Interest rate in % per annum (indicate if sliding scale)	3%	
Based on	Monthly minimum balance	
Interest payment	Yearly	
Number of free withdrawals/month	0	
Excess withdrawal penalty	28%	
Charges for withdrawal below minimum balance	USD 10	
Ledger fees (COT)	N/A	
Overdraft limit	N/A	
Overdraft fees	N/A	
Dormancy period in months	180 days	
Reactivation charge	N/A	
Withholding tax %	10%	
Account closure charges	USD 50	
Acceptance of check deposits	Yes	

Interest paid on uncleared balance	No	
Check clearing fee	N/A	
Special clearing of cheques	USD 300	
Unpaid check (R/D or UE)	R/D 150.00 or UE 50.00	
Issuance of bank draft	N/A	
Check payments	N/A	
Certificate of balance	USD 50	
Letter of reference	USD 50	
Banker's opinion	USD 200	
Other fees	Stamp Duty = 50	
Standing orders supported?	USD 30	
Linking between account types	N/A	

IS Requirements

<The information gathered during the Needs Analysis process should be included in the IS Requirements Worksheet in the Requirements Document excel template. The Requirements Document template can be included directly in the RFP and also used as an evaluation tool for the vendor responses to the RFP.>

Annex 3. Request for Proposals Template

<MFI XXX> is accepting proposals for a Management Information System (MIS). The purpose of this RFP is to provide a fair and open process for all candidates and to provide candidates with as much information about system requirements as possible.

Institutional Overview of MFI and Operating Environment

Institutional Overview

<Insert/Summarize from Needs Analysis document>

Business Process Maps of Current Processes

<Insert/Summarize from Needs Analysis document>

Summary of Reports

<Insert/Summarize from Needs Analysis document>

Technical Environment

<Insert/Summarize from Needs Analysis document>

Response Guidelines

Vendor profile

- 1) Provide a brief company profile, including
 - a. Corporate headquarters and other office locations
 - b. High-level organization structure
 - c. How many years your company has been in business
 - d. Your core competencies and areas of specialization

- e. How many years your company has been involved in systems implementations similar to this one in the microfinance industry
 - f. What percentage of your company's turnover and profits does this product represent? Include a copy of your company's published financial results for the last 2 years
 - g. How many people does your company employ and how many are directly associated with the proposed product? Among the latter, provide breakdown of staff associated with each of these categories—development, implementation, and support
- 2) Detail the appropriate experience and proposed roles of staff that you expect will be assigned to this project.
 - 3) Describe your past performance/experience developing an MIS as described in this proposal. Do you have experience and/or staff in <specify country/region of MFI>?
 - 4) Provide three client references. Ideally they should be using the same version you are proposing for us for at least two years. Provide the following information for each client reference
 - a. Company name, address, and contact information
 - b. Names and designations of key personnel
 - c. Date the system commenced live operation
 - d. MIS version and modules used
 - e. Number of branches and customers at go-live and at present
 - f. Brief description of system architecture and network medium/capacity being used

Solution overview

Provide the following information:

- 1) A detailed history of the package
- 2) A product enhancement roadmap describing the currently planned enhancements and any addition of new features
- 3) List of modules proposed for our MFI
- 4) Details of other modules available
- 5) Overview of system architecture proposed for our MFI, required hardware

Pricing

Provide details of your proposed pricing, including

- Software license fees

- Implementation fees including (include as appropriate)
 - Requirements Gathering and Detailed Gap Analysis
 - Business Process Design
 - Project Management
 - Configuration
 - Customizations
 - Training (technical, functional, management)
 - Data migration
 - Documentation
 - User Acceptance testing
 - Rollout
 - Operational support during warranty period (post-production)
 - Estimate of travel and misc. expenses
 - Other (specify)
- Ongoing fees
 - Annual maintenance fee
 - Future upgrades
 - Future customizations/modifications/additional support (include standard rates/cost structures)
 - Additional software licenses

Also provide a cost estimate for hardware (other than standard client PCs), operating system, database and third party software licenses that the MFI might be required to purchase.

Finally, provide a table detailing the estimated total cost to the MFI, over a 5-year period, summarizing all components itemized above.

Prices are to be quoted in <currency> including all taxes, shipment, delivery, and associated costs.

Provide a copy of your standard contract.

Implementation and Support

Provide the following information:

- A customization/implementation project plan that includes resources required from both the vendor and the MFI.

- A description of your overall implementation methodology/strategy with particular emphasis on the following:
 - Gap analysis
 - Project management
 - Training
 - Data migration
 - User Acceptance Testing
 - Rollout
- A description of the development process used to build, test, and release software and upgrades to client sites.
- Term of the warranty period, including what is in scope
- A description of your client support strategy including
 - SLA (service level agreements) clearly identifying response times and call logging/escalation procedures
 - Channels that are available (email, phone, in-person, local partner, etc.)
 - Issue tracking database accessible to the client for logging and updating issues
 - What is in scope and out of scope as part of maintenance
- Strategy for developing and releasing upgrades to clients, including incorporating of client specific customizations as part of the upgrade

RFP Submission and Format for Response

Submission deadline

Complete proposals must be submitted electronically to <email address> and received by <time with time zone>, <date>. Proposals received after this will not be considered.

Format for Response

The objective of the format described within this section is to enable a final comparison to be made between each vendor's offerings. Please comply with the response structure as described. You may include additional items of relevance where necessary.

Length and Font Size: Use fonts no smaller than 11 point. Maximum proposal length should not exceed <specify number of pages> pages. (Excludes responses to Specifications Document). Be as concise as possible.

Proposal should include the following components in the order listed:

1. Title Page

Include "<MFI XXX> MIS Proposal"; your company name, address, Web site address, telephone number, fax number; primary contact person and his/her email address.

2. Cover Letter, signed by person(s) authorized to sign on behalf of the company.
3. Provider Profile
4. Solution Overview
5. Pricing
6. Implementation Plan
7. Response to Specifications Document
8. Appendices (optional)

Specifications Document

<MFI XXX> has indicated against each requirement whether it is essential, desirable, or nice to have. (E/D/N).

Under the column headed S/C/F/N, respond with one of:

S: Standard within the off-the-shelf version of your product without any form of customization or toolkit/designer configuration. Standard features are limited to those that can be easily enabled, disabled, or changed by the MFI on a case-by-case basis through the application or system parameter menu screens. Any form of configuration required to be undertaken through toolkit-type functionality must be documented as “C” and person days/pricing included. All requirements indicated as being “standard” will be expected to be able to be demonstrated on demand at any future presentation should your solution be shortlisted.

C: Requires custom modification, backend configuration, toolkit/designer changes, or any other form of change or setting that could not reasonably expected to be undertaken by a typical MFI through the application menu screens. Add a description as to the nature of the modification. It must also be stated whether each one will be incorporated into the version that other clients are using, or if not, how the supplier will ensure quality support and access to version upgrades of the standard product. Note that all customizations must be included in your pricing. Number of person-days must be clearly indicated, whether or not they are chargeable.

F: Future Release that will be available within the next 12 months in subsequent releases of the solution (specify timeframe which will form part of the contract).

N: Not available at all.

Provide further details and explanation where appropriate under “Vendor Comments.”

<Insert a copy of the Requirements Document prepared previously. See the Instructions page of Annex 2a for further details.>

Annex 4. Vendor Demo Evaluation Template

Instructions

- This template should be used to evaluate vendor demos during the IS selection process.
- Add, remove, or modify test scripts based on the functionality that is most important to your MFI (refer to the Specifications Document)
- Complete one evaluation for each vendor demo
- S/C/F/N column refers to S=Standard, C=Requires customization, F=Future Release (within twelve months), N=Not available
- Score column refers to a numeric value scoring how well the functionality meets our criteria (1 through 5 with 1 = Poor and 5 = Excellent)
- Comments column is for noting down reasons for the score and other observations

Vendor Name:

Product Name and Version:

Vendor Staff Present:

MFI Staff Present:

Demo Date(s):

No	Test Script	S/C/F/N	Score (1 to 5)	Comments
1.	Open an account for a new client, maybe with both a loan and savings account			
2.	Print collection sheets and record payments for an entire village banking group or several groups			
3.	Post a payment which is late/early/misded			
4.	Reschedule or write-off a loan			
5.	Setup a new loan product in the system with various conditions and terms			
6.	Generate a report of loans in a given geographical region and more than 30 days late			
7.	Query all loan officers with clients in arrears			
8.	Query all active clients who have been members for > 5 years and have children			
9.	Setup a new user (employee) on the system with restricted privileges			
10.	Review transaction logs for errors or security breaches			
11.	...			
12.				
13.				

Annex 5. Implementation Plan Template

Document Information and Sign-Off

Document Name:	<MFI XXX IS Implementation Plan>
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Document Revision History

Sr. No.	Version	Release Date	Author	Reason for change
1	1.0	xx-xx-xxxx	XYZ	

Document Signoff History

Sr. No.	Person Name	Designation	Sign-off Rec'd (Y/N)	Via H=Hardcopy; E=Email	Sign-off Version	Sign-off Date
1	XYZ	CEO	Y	H	2.4	xx-xx-xxxx
2	ABC	CFO	N			

Executive Summary

<Insert Text Here>

Purpose of Document

The implementation phase transforms the solution from a plan to a functioning system and encompasses project management, hardware installation, software installation, data migration, user acceptance testing, staff training, and process alignment. The implementation plan documents each of these activities along with a strategy and timeline.

Project Management and Communications

<Document your project management and communications strategy by answering the questions below and providing any other information as it relates to your organization.>

- How do you plan to phase in the implementation?
- How fixed is your timeline?
- What level of effort will be needed to keep the plan on time and within budget?
- Who in the organization can be temporarily reassigned to manage the implementation? This is a full-time responsibility. If you do not have an internal candidate to manage the process, strongly consider an external consultant to help with the process.
- What previous experience do they have with IS software implementation or the current MIS of the organization?
- For what length of time will they be needed?
- How strong are their troubleshooting (problem solving) skills?
- Could this person benefit from project management guidance from the vendor or an external consultant? If so, how much?
- Which other staff within the organization will be needed, at what stage, and for how long? How can their time be managed to ensure their day-to-day work does not suffer?
- Are there any key holidays or events during your proposed project timeline that would result in key people being more or less available?
- What is your communications plan? Communicating with the organization on an ongoing basis is critical to getting staff excited about the new system. This is a key part of change management.
- How often will the Task Force meet during implementation?
- At what stages does the Task Force need to provide updates to the board and senior management?
- What are the key risks for the implementation, and how will you mitigate these risks? For example, lack of computer literacy among staff might be mitigated by putting computers into branches earlier and having staff start accessing email using these.
- How will you measure the success of the new solution? Review the indicators defined during project preparation and update as needed.

Hardware, System Software, and Infrastructure

<Document your hardware, system software, and infrastructure procurement and installation strategy by answering the questions below and providing any other information as it relates to your organization.>

- What hardware, system software, and infrastructure (power, connectivity, etc.) are required at the head office and branches? What is the configuration required for each of these given the new system, the expected load (amount of data, number of users,

etc.) initially and the forecasted load in the future? When would upgrades be required in the future?

- How much of the existing hardware can be used, and how much will need to be replaced?
- What new hardware needs to be purchased?
- Do you need to improve your facilities for the safe storage of hardware (i.e., climate control, security, etc.)
- Do you need to purchase generators to supplement power supplies? How do we ensure that operations are unaffected by power outages?
- What networking or Internet connectivity is needed at the head office and/or branches? How do we ensure that operations are unaffected by connectivity outages?
- How will we provide support to branches in case of failure of computing infrastructure (computers, peripherals, power systems, etc.)?
- Do you need to look at data center facilities for hosting the application?

Configuration

<Document your software configuration strategy by answering the questions below and providing any other information as it relates to your organization.>

- Who will work with the vendor to configure products, reports, look and feel, and other institutional-specific elements of the solution?
- How will you ensure that the vendor has understood and captured these correctly to prevent multiple iterations and delays?

Customization

<Document your software customization strategy by answering the questions below and providing any other information as it relates to your organization.>

- What level of customization will be required to the system software? Have the customizations been prioritized into Essential, Desired, and Nice-to-Have based on business impact, cost in terms of time and resources, and presence of alternative solutions?
- Who will oversee the deadlines and deliverables of the vendor?
- Who will be responsible for developing customization test scripts and testing the additions?
- How do we ensure that customizations specific to us do not result in problems in the future in terms of support and upgrades from the vendor?

Business Process Design

<Document your business process design and alignment strategy by answering the questions below and providing any other information as it relates to your organization.>

- What changes to your processes and forms will need to be made to accommodate the new solution? What changes can be made before the new system is in place? How will we test these changes before rolling them out to the whole organization?
- What internal documents (process maps, operations manual, etc.) will need to be updated based on the changes?
- Who will oversee the process alignment process?
- How will changes be communicated to staff?

Data Migration and Reconciliation

<Document your data migration strategy by answering the questions below and providing any other information as it relates to your organization.>

- What data will need to be migrated to the new system?
- What issues are involved with converting the data (i.e., lack of a standard way of calculating interest from one branch office to the next)?
- What is the volume of data to be migrated?
- Given time, costs, and percentage of error, would a manual or automated migration, or a combination of both be better?
- How will we ensure that, post-migration, the old and new systems reconcile?

User Acceptance Testing

<Document your user acceptance testing strategy by answering the questions below and providing any other information as it relates to your organization.>

- Who will lead the user testing process?
- What staff members will participate in testing?
- How will changes resulting from user testing be communicated back to the vendor?
- Who will create the user acceptance testing scripts from the specifications document?

Training

<Document your staff training strategy by answering the questions below and providing any other information as it relates to your organization.>

- What basic training is necessary for the IT staff, and for the general staff? Conduct specialized trainings for different user groups, such as loan officers, branch managers, data entry staff, etc.
- Are there any training prerequisites?
- Who conducts the training?
- What is their training experience?
- In what language is the training offered? Is this the first language of the trainer?
- Is the training a structured class style format? Training is most useful when it is hands on and realistic, using the organization's data, forms, policies, and terminology.
- Is there a student manual that has examples and practice exercises?
- Is there a trainer of trainers option?
- What follow-up training options are available for reinforcing basic skills, learning advanced features, or instructing new employees?
- What resources (space, computers, overhead, etc.) will be necessary for the training?
- Finally, does the system have complete, well-written documentation that includes every term, function, operation, and error message?

Rollout

<Document your rollout strategy by answering the questions below and providing any other information as it relates to your organization.>

- Who will actually do the rollout especially for the first few branches (i.e., vendor or staff)? Who will do rollouts for the other branches and for new branches in the future?
- What is the rollout strategy i.e. branch wise, functionality wise, etc.?
- How will the rollout be managed from a practical perspective? What are the detailed steps that need to be followed?
- Will you do an immediate transition or run the two systems in parallel?
- What additional training or handholding is required for branch staff?

Implementation Timeline

The implementation phase is expected to run from <Start Date> to <End Date>.

Annex 5a, found on the accompanying CD and online at www.cgap.com, provides a detailed timeline for the implementation listing tasks along with associated sub-tasks.

<Please update as required. The timeline should be used as a project management tool throughout the implementation phase>

Annex 6. Additional Resources

- CGAP Technology Blog (MIS). <http://technology.cgap.org/category/topic/mis/>
- MicroSave. <http://www.microsave.org/content/microsave-training-toolkits>
- CGAP Technology Survey 2008. <http://www.cgap.org/p/site/c/template.rc/1.26.10622/>
- CGAP Technology Blog. <http://technology.cgap.org/category/topic/mis/>
- Microfinance Insights Technology Survey 2009. http://www.microfinanceinsights.com/oldsite/download/Survey_Mfinsights_Issue15.pdf
- Investing in Mifos: A Framework for Forecasting Return on Investment. http://www.microfinancegateway.org/gm/document-1.9.51796/Grameen_Foundation_Mifos_ROI.pdf
- Internal Audit and IT-Based MIS System. <http://www.microfinancegateway.org/p/site/m/template.rc/1.9.46518/>
- Microfinance Back Office Systems: Who's Who? http://www.ibsintelligence.com/index.php?option=com_content&view=article&id=13494:analysis-back-office-systems-microfinance-systems-whos-who&catid=227:2009&Itemid=103
- Microfinance Focus 2010, Analysis by IBS Intelligence. http://www.ibsintelligence.com/index.php?option=com_content&view=article&id=15193:ibs-microfinance-focus&catid=204:microfinance-supplement&Itemid=27
- The Top Nine Requirements Misconceptions: Why Aren't YOU Doing Requirements Right? <http://www.batimes.com/articles/the-top-nine-requirements-misconceptions-why-arent-you-doing-requirements-right.html>
- CGAP Course: Information Systems for Microfinance Institutions. <http://www.cgap.org/p/site/c/template.rc/1.11.16003/1.26.4916/>
- Management Information Systems for Microfinance Institutions: A Handbook. Feb 1998, Waterfield, C. & Ramsing, N. <http://www.microfinancegateway.org/p/site/m/template.rc/1.9.29228/>
- Management Information Systems for Microfinance: An Evaluation Framework Nov 1999, Mainhart, A. <http://www.microfinancegateway.org/p/site/m/template.rc/1.9.29226/>

